Pharmacophore

ISSN-2229-5402

Journal home page: http://www.pharmacophorejournal.com

Pharmacophore
an International Journal
ISSN 2229-5402

INVESTIGATION AND COMPARISON OF DEPRESSION LEVEL AMONG STUDENTS AT BANDAR ABBAS UNIVERSITY OF MEDICAL SCIENCES"

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ARTICLE INFO

Received:
03th Jun 2017
Accepted:
29th Nov 2017
Available online:
14th Dec 2017

Keywords: *Depression, students, university student depression inventory (USDI)*

ABSTRACT

Introduction: depression is an illness that may influence all strata and age groups in a society. One of these strata is the youth and particularly the students who are susceptible to depression due to various reasons such as entering a new environment, the huge bulk of educational materials, and distance from family.
Objectives: the objective of the present study is to investigate and compare depression level among students of different disciplines at Bandar Abbas University of Medical Sciences, 2015.
Method: this is a descriptive-analytic study conducted by using university student depression inventory (USDI). Data were collected using census method and totally, 2229 participants completed the questionnaire. SPSS 19 software, Kruskal–Wallis test, and Mann-Whitney U test were used for data analysis.
Findings: this study indicated that there is a statistically significant difference between depression level of male and female students (P<0.01); male students had a higher depression level. There was a statistically significant difference between depression level in different educational disciplines (P<0.001). Furthermore, there was a statistically significant difference between depression level in terms of the places of residence (P<0.011). The students living at father's home had the highest depression level. There was no statistically significant difference between other variables (father's job, parents' educational level, marital status, previous family experience of depression, smoking, use of antidepressants in the family, and birth order) and students' depression level.
Conclusion: According to the results of this study indicating a relatively high prevalence of depression among students of different disciplines of medical sciences, it is necessary to take necessary actions such as improving the student consultation-providing system and providing more welfare and entertainment facilities to balance these conditions which would naturally result in undesirable consequences for the students and the educational system.

To Cite This Article: Hasan Khoshnou[1], Mohsen Azad[2], Ali Sheikhi[3*], Maryam Salehi[4], Ali Paslari[5], (2017), "Investigation and Comparison of Depression Level among Students at Bandar Abbas University of Medical Sciences"", **Pharmacophore, 8(6S),** e-1173642.

Introduction

According to the reports of the World Health Organization (WHO), mental disorder is one of the four main reasons for health problems. Among these disorders, depression is the reason for most the inabilities in the world (1). Depression is one

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of the prevalent mood disorders causing dysfunction and cognitive disorders, behavioral disorders, and stimulating symptoms. The feature of this disorder and different combinations of its symptoms can be experienced in different people (2). Depression causes the inability of the 15-44-year-old age group in the United States of America. Major depression disorder and bipolar depression disorder respectively lead to 27.2 and 65.5 missed working days for each depressed worker per year (3).

Every moment, 15-20 adults may experience different complications and signs of major depression. At least, 12 percent of the developed countries' population visits psychologists to cure major depression in their life (4). Depression may occur from childhood to elderly age, but its symptoms begin in adolescence and adulthood in most of the cases. Nowadays, academic institutions have increased, higher education has been developed, and many young people enter the universities; hence, students are one of the strata that are vulnerable to this illness (5). The depression levels among American students, female students at the universities in Kentucky, and Iranian students between 1975 and 1992 were respectively reported as 65%, 35%, and between 1.6 to 22%. The depression level among medical students is usually higher because of the presence in stressful environments (6). Ershadi et al. (2011) indicated that the depression level among students of medicine, paramedicine, nursing, and health is 43 percent; 29.3% suffered from mild depression, 7.8% suffered from moderate depression, and 6.5% suffered from severe depression (7). Societies spend huge spiritual and material costs to educate students who are naturally the most talented social group; that is why any impairment in the students' mental and physical health threatens this investment. Specialists of the mental health believe that depression is increased when some changes are made in the social conditions or individual values. Apparently, there is no relationship between depression, social class, literacy level, race, income, and marital status. Generally, men and women are likely to be afflicted with the major depressive disorder by 5-12% and 10-25%, respectively (8).

While entering the university, the students suffer from depression to some extent. They may be afflicted with depression due to factors such as unfamiliarity with university environment or the culture of the region (if the student is not native), separation and distance from family, lack of interest in the field of study, and maladaptation to other people in the environment. Hence, it can decline the student's performance in the early stages of life (9).

Due to the difference between kind of depression among students and other populations, the growing prevalence of depression among students, lack of using professional instruments for measuring students' depression in the previous studies, and with regard to the fact that the last study on the depression level of the students at Hormozgan University of Medical Sciences was conducted in 2004 in which Beck Depression Inventory was used for a small sample, the researchers of the present study sought to conduct a study using the specific university student depression inventory (USDI) for a larger sample selected by applying census method.

Method

This is a descriptive-analytic study conducted on the students at Bandar Abbas University of Medical Sciences in a period from September, 2015 to March, 2016. The population included students of all medical disciplines at Bandar Abbas University of Medical Sciences in 2015 (including 13 academic disciplines). They were selected by census method and, using Khawaja and Bryden's university student depression inventory (USDI). This questionnaire was developed by Khawaja and Bryden (2006) in Spain. It was standardized by Hejazi, Rezaei Sharif, and Shalchi in 2008 for the first time in Iran.

The questionnaire includes 30 questions in three areas of lethargy, cognitive-emotional, and academic motivation. The responses vary from 1 to 5 for each question such that 1 indicates the minimum depression symptoms and 5 indicates the maximum depression symptoms. The minimum and maximum scores of every questionnaire are respectively 30 and 150. In addition to this questionnaire, the demographic questionnaire was completed by the participants.

The reliability and validity of this instrument were confirmed by Hejazi and Rezaei Sharif (2008) in Isfahan. The internal consistency and test-retest methods were used. The Cronbach's alpha coefficients for the subscales of lethargy, academic motivation, and cognitive-emotional were respectively 0.75, 0.83, and 0.90, indicating a desirable validity. The correlation coefficients for the subscales of academic motivation, cognitive-emotional, lethargy, and the total scale were respectively 0.89, 0.86, 0.80, and 0.88 (10). This questionnaire has been also used by Jafarzadeh Isfahani and Kamranian in a study conducted on the students at Sabzevar University of Medical Sciences (11).

In addition to this questionnaire, the demographic information questionnaire was also completed by the participants. It included questions about age, gender, major, term, marital status, birth order, family income, physical activity, place of residence, parents' job, previous experience of depression in the family, smoking or not smoking cigarette, and parents' educational level. Before implementation of this project, it was approved by the ethics committee of Hormozgan University of Medical Sciences and is of the ethical code no. HUMS.REC. 1395.016. Before completing the questionnaire, the participants' written consent on willingness to cooperate in the project was received.

The participants were 2229 people; 35.8% of whom were male, 64.2% were female, 76.9% were single and the others were married. Data were entered SPSS 19 software and analyzed by descriptive statistics (mean, percentage, etc.), independent t-test, Mann-Whitney U test, one-way ANOVA, and Kruskal–Wallis test.

Findings

Data analysis indicated that, according to figure 1, 64.2 percent of the 2229 students participated in the study were female, 35.8 percent were male, 76.9 percent were single, and 23.1 percent were married. Moreover, most of the students (64.9%) lived in dormitory and the other ones lived in their personal homes or student homes. With regard to physical activity, 51.6 percent of the participants had only a one-hour physical activity a day, 21.3 percent of whom had 2 hours of physical activity, 12.1 percent had 3 hours of physical activity, 6.2 percent had 4 hours of physical activity, and 8.9 percent had more than 4 hours physical activity a day. With regard to the questionnaire scores in all subscales and the total score of the questionnaire, there was a significant difference between male and female students and the score of the male students was more than that of the female students.

In other words, the depression level of the male students was higher than that of the female students ($P<0.01$). The maximum total score of the questionnaire was 147 and the minimum of which was 30. The average score of the female students was 66.22±20.68 and that of the male students was 69.12±20.18.

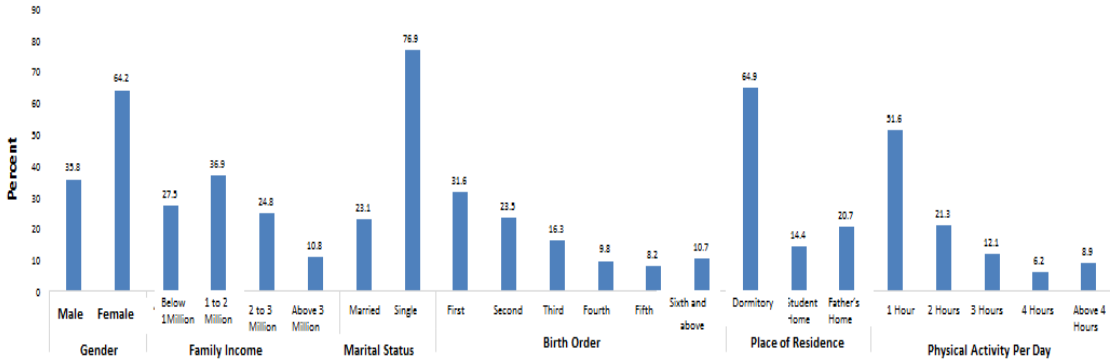

Figure1. The percentage of students' background variables

According to table 1, 54.3% (1065 students) of the students had the symptoms of mild depression, 30.4% (596 students) had moderate depression, 12.3% (241 students) had severe depression, and 3.1% (60 students) had very severe depression. It needs to be noted that, in this classification, the scores under average show mild depression, mean plus one standard deviation show moderate depression, mean plus two standard deviations show severe depression, and the scores between mean and two standard deviations show the highest score of the participants indicating very severe depression.

Table1. Percentage of the severity of depression symptoms among students

No.	Domain	Percentage	Z score	Mean and SD	Scores	Depression level
1065	0-54	54.3	Low 0	Lower than mean	30-67	Mild
596	55-81	30.4	1	Mean plus one SD	68-88	Moderate
241	82-97	12.3	2	Mean plus one SD- Mean plus one SD	89-109	Severe
60	98-100	3.1	3	Maximum score-2 SD higher than mean	110-147	Very severe

According to Mann-Whitney U test and table 2, the questionnaire score of male students was significantly higher than that of the female students in all areas and the results indicated that the male students were more depressed than the female ones ($P<0.01$).

Table2. Mean, standard deviation, minimum and maximum scores of the questionnaire different areas according to the students' gender

	Gender								P-value of Mann-Whitney U test
	Male				Female				
	mean	SD	minimum	maximum	mean	SD	minimum	maximum	
Lethargy	22.18	7.05	10.00	46.00	21.31	7.16	10.00	50.00	0.004*
Cognitive–emotional	11.91	4.08	5.00	25.00	11.31	4.20	5.00	25.00	<0.001*
Academic motivation	35.30	10.59	15.00	75.00	33.92	10.96	15.00	75.00	0.001*
Total score of USDI	69.12	20.18	30.00	146.00	66.22	20.68	30.00	147.00	0.001*

According to table 3, the total questionnaire score has a significant difference in different academic disciplines (P<0.001). Radiology had the maximum score (highest depression level); according to post-hoc test, there is a significant difference between this discipline and the two disciplines of health information technology and dentistry at the level of 0.05. According to Kruskal–Wallis test, there was a significant difference between different academic disciplines in terms of the questionnaire score in the cognitive-emotional area (P<0.001). Nursing had the maximum score (highest depression level); according to post-hoc test, there is a significant difference between this discipline and the two disciplines of health information technology and dentistry at the level of 0.05. There was also a significant difference between this discipline and the two disciplines of health information technology and surgical technology. Moreover, there was a significant difference between different academic disciplines in terms of the questionnaire score in the academic motivation area (P<0.001). Environmental health had the maximum score (highest depression level); according to post-hoc test, there is a significant difference between this discipline and the disciplines of health information technology, dentistry, and public health at the level of 0.05. Furthermore, health information technology had a significant difference with the disciplines of surgical technology, radiology, health, and medicine. As a result, the total score of the questionnaire has a significant difference in terms of different academic disciplines (P<0.001). Radiology had the maximum score (highest depression level); according to post-hoc test, there is a significant difference between this discipline and the two disciplines of health information technology and dentistry at the level of 0.05. Furthermore, health information technology had a significant difference with the disciplines of surgical technology, nursing, and medicine. There was also a significant difference between dentistry and nursing. Besides, there was a significant difference between the total score of the questionnaire and different academic semesters (P<0.001). The first term had the minimum score (lowest depression level).

There was a significant difference between the total score of the questionnaire and the place of residence (P=0.011). The students living in the father's home had the maximum score. There was also a significant difference between the total score of the questionnaire and the mother's job (P=0.024). Clerks had the maximum score. Furthermore, there was a significant difference between the total score of the questionnaire and the physical activity per day (P=0.031). Three hours of physical activity had the maximum score. There was no significant difference between other variables (father's job, parents' educational level, marital status, previous family experience of depression, smoking, use of antidepressants in the family, and birth order) and the students' depression level.

Table3. Mean, standard deviation, number, and percentage of the three subscales and the total score in terms of the academic disciplines of the students

Discipline	No. (percent)	Lethargy		Cognitive-emotional		Academic motivation		USDI total score	
		mean	SD	mean	SD	mean	SD	mean	SD
Nursing	239(10.7)	21.95	7.00	12.24	4.14	36.82	10.67	70.29	20.53
Midwifery	147(6.6)	21.95	8.33	11.30	4.89	34.81	13.62	67.23	25.50
Surgical technology	150(6.7)	22.47	6.59	12.04	3.67	35.39	9.29	69.92	17.59
Anesthesiology	204(9.2)	21.08	7.20	11.29	4.23	33.31	11.01	65.15	21.16
Radiology	144(6.5)	23.25	7.58	12.21	4.44	36.30	11.04	72.39	21.74
Health information technology	199(8.9)	20.05	6.33	10.55	3.85	31.21	9.37	61.55	17.70

Medical laboratory	111(5.0)	22.21	8.33	11.78	4.13	35.13	11.70	68.50	22.93
Professional health	43(1.9)	19.23	7.51	10.88	4.50	32.12	10.85	61.83	21.19
Environmental health	67(3.0)	22.06	7.26	12.09	4.19	37.24	10.79	71.46	20.56
Public health	95(4.3)	21.22	6.27	11.11	3.74	32.13	10.17	63.46	16.78
Medicine	488(21.9)	22.16	7.16	11.59	4.25	34.86	11.02	68.50	20.63
Dentistry	226(10.2)	20.29	6.11	10.76	3.66	32.83	9.19	63.53	17.09
Emergency medical technician	111(5.0)	22.16	7.09	12.11	4.08	34.96	10.93	69.11	21.00
P-value		<0.001*		<0.001*		<0.001*		<0.001*	

Regarding the relationship between depression level and different academic terms, there was a significant difference between academic terms in terms of the areas of lethargy, cognitive-emotional, and academic motivation and also the total score of the questionnaire. Term one indicated the minimum score, i.e. the lowest depression level (P<0.001).

Discussion

In this study, the total average score of depression was 67.29 and the standard deviation was 20.53. 54.3 percent of the students had the symptoms of mild depression, 30.4 percent had moderate depression, 12.3 percent had severe depression, and 3.1 percent had the symptoms of the very severe depression. In other words, 48.8 percent of the students had moderate-and-above depression symptoms. The prevalence of depression in the present study is not consistent with some other studies such as the study done by Ildarabadi in which the prevalence of depression was 64.3 percent and that of Hashemi in which the prevalence of depression was 69.2 percent. They are considerably higher than the prevalence of depression in this study. It should be noted that most studies conducted in Iran have used Beck Depression Inventory while the participants completed Khawaja and Bryden's university student depression inventory (USDI) in the present study (12, 13). Contrary to many of the previous studies, men had a higher depression level than women in the present study; in this regard, it is in line with the study of Hashemi in Yasuj and Rafati in Shiraz (13, 14). This can be a warning for conducting further research in this regard. Some investigations have been done in the world without considering the country and culture and indicated that women are afflicted with depression as twice as men (15). Of course, women had a higher depression level in most of the conducted studies, but not as twice as men.

This study is consistent with the study of Khawaja conducted on 1148 students at an Australian University. It was indicated that the prevalence of the mild depression was 50 percent, that of moderate depression was 31.4 percent, that of severe depression was 14.2 percent, and prevalence of the very severe depression was 3 percent (16). In the present study, the prevalence of the mild depression was 54.3 percent, that of moderate depression was 30.4 percent, that of severe depression was 12.3 percent, and prevalence of the very severe depression was 3.1 percent. Furthermore, the present study is in line with the study done by Jafarzadeh Isfahani in which USDI was used. In the said study, the mean of the participants' depression level was 60.71 percent and this quantity is 67.29 in the present study. The mean difference in these two studies may be due to the significant difference in the sample size. It was 2229 people in the present study and 75 people in Jafarzadeh's study (11). Moreover, this study is in line with the study of Rashidi Zavieh conducted on Zanjan nursing and midwifery students; the depression level was reported as 48.6 percent (17).

Academic disciplines like radiology, nursing, surgical technology, midwifery, medicine, and anesthesiology had the highest depression level, respectively. On the contrary, disciplines like health information technology, occupational health engineering, and public health had the lowest depression level. With regard to the quality of the students' work and activity and those working in the said disciplines, it may be concluded that depression symptoms in disciplines which have a direct close relationship with patient and naturally result in students' more mental stress, are higher than the disciplines which do not have a direct close relationship with patient.

There was a statistically significant difference between different academic semesters and depression level such that term 1 indicated the lowest depression level in each of the three subscales and the questionnaire total score (P<0.001). This result may be due to the fact that the term-one students do not usually have a huge educational material, are of less mental stress, and still are in the academic honeymoon period because of the feeling of happiness they have for entering the university. However, the educational materials and the stresses of the educational environment will increase in the higher semesters.

Conclusion

Due to the relatively high prevalence of depression (48.8%) among students in different medical sciences disciplines, it is proposed that some actions be taken to provide more welfare and entertainment facilities for students, plan for increasing the students' participation in different educational, cultural, entertainment, and sport programs, enhance consultation institutes

and psychiatric services to diagnose and treat the students' mental problems on time, and investigate the reasons for students' academic decline and do necessary actions to prevent it.

Furthermore, it is proposed that the quantity of the students at different disciplines be controlled and has less distance in terms of population in future studies. It is better that sampling be done in the minimum possible time since sampling time may affect data combination.

Additionally, it is suggested that similar studies be conducted on the students of the universities of medical sciences in other cities and also on non-medical students.

Acknowledgements

The authors of this research would like to greatly appreciate the respectful deputy of research and technology at Bandar Abbas University of Medical Sciences for their cooperation in this study. They also appreciate all the people who helped and guided them in one way or another.

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