



Evaluation of Anxiety, Stress and Depression among Students of Lorestan University of Medical Sciences, west of Iran, in 2016

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DOI: 10.24896/jrmds.20186147

ABSTRACT

Background and Objective: The University is one of the most important educational levels for students, which is associated with multiple psychological disorders. The purpose of this study was to investigate depression, anxiety and stress in students of Lorestan University of Medical Sciences in 2017. *Material and Methods:* In this analytical-cross sectional study, the statistical population of study included all students studying at Lorestan University of Medical Sciences in 2017. The required sample size was randomized in a multistage, proportional to the number of students in each field of study. In this research, a standard questionnaire called the Depression, Anxiety, Stress Scale 21 (DASS-21) was used for data collection. Data were analyzed using SPSS 11.5 and descriptive statistics and inferential statistics software such as evaluation of Chi-square test, correlation coefficient and one-way analysis of variance (ANOVA). *Results:* The findings of this study indicate that, the prevalence of different degrees of depression, anxiety and stress among students was 17.4%, 21.2%, 11.9%, respectively and also, the prevalence of depression and stress in female was higher than male and so, was not significantly difference between age, sex, marital status, housing status, field of study and stress, anxiety, depression. *Conclusion:* Education at university is associated with a decline in quality of life due to stress, anxiety and depression. A society that thinks to improve its health and future generations, should to plan to improve the mental health.

Keywords: Anxiety, Stress, Depression, Student

HOW TO CITE THIS ARTICLE: Khodadadi B, Anbari KH, Saghargoghi farahani M, Evaluation of Anxiety, Stress and Depression among Students of Lorestan University of Medical Sciences, 2016, J Res Med Dent Sci, 2018, 6 (1): 285-294, DOI: 10.24896/jrmds.20186147

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Received: 13/09/2017

Accepted: 28/12/2017

INTRODUCTION

Youth are the main capital of any country. Entering the university is an important and sensitive part of the youth life that is associated with changes in their mood status [1]. Students play an important role in the future of the country and form a large section of the population, which is rising rapidly; the importance of students' health is considered crucial. In the meantime, it is very important to pay attention to medical students who will be responsible in the future for

the health of the community [2]. Mental health, which is an important dimension of health, is essential for students as future educators in the country, as students may be at risk of mental health due to their age and condition [1]. Nowadays, around 45 million people worldwide suffer from psychological, neurological and behavioral problems. According to the WHO statistics, about half of mental disorders are related to mood disorders such as anxiety and depression, the prevalence of these disorders is constantly rising and is the second problem [3]. Stress: Stress is associated with tiredness and stress mood. And this increases the risk of heart disease and brain damage [20]. Stress can be caused by environmental and internal factors [21]. As well as it can lead to physical and mental

illnesses, among which young people are the most vulnerable members of society for stress [1,4]. Factors such as being away from home, separating from the family, entering a new environment, issues and learning problems, competing with students, working life, and living in a dormitory are the most important stressors of the students [5]. One of the stressful mental illnesses and symptoms is anxiety and depression, and decreased job satisfaction and deficits in individual communication and even suicidal thoughts [4, 5]. Different studies show the disorders frequency of anxiety and depression in students [6]. Depression is one of the most important psychiatric disorders and has a high burden on different countries [19]. Depression can lead to issue such as decreased self-esteem, self-denigration, feelings of guilt or suicidal tendencies, reduced ability to think and concentrate, change in sensory motor activity, sleep disturbances, and appetite [25]. Anxiety A group of mental illnesses associated with fear [22]. Anxiety, which is a form of fear, gives rise to anxiety about the future that comes with a real or imagined threat. And this causes physical illness in anxious people [23]. Most anxieties arise from the perception of an agent in the future [24]. Anxiety is a total emotional distress associated with symptoms such as general grief, feelings of guilt, fear, restlessness, and aversion. Depression is also manifested in symptoms such as low levels of positive affection, the inability to enjoy, sad, misery, frustration, and disappointment [7]. Preventing stress and anxiety and depression and reducing stress lead to increased interest in work and collaboration and feelings of responsibility in the group [3]. Depression is one of the most important psychiatric disorders and has a high burden on different countries [12]. Given that youth are the main capital of any country. Entering the university is an important and sensitive part of the youth that is associated with changes in their mood [1]. Given that anxiety and stress have a direct relationship with learning [8], so, it requires the planning and special attention of the authorities in this regard. Therefore, timely knowledge of the students' psychological issues and timely action in the field of education. Treatment can be an important step in the mental and psychological well-being of this future cortex. Therefore, the purpose of this study was to investigate the prevalence of depression, anxiety and stress among students of medical sciences in

students of Lorestan University of Medical Sciences.

MATERIALS AND METHODS

The present study is a descriptive-analytic-cross study. The statistical population of this study consists of all students studying at Lorestan University of Medical Sciences in 2016 in three Ph.D., Bachelor's and Postgraduate degrees in 2016. The required sample size was estimated based on the prevalence of 53% based on the degree of depression in previous studies [2] and the standard error of 0.05 and accuracy of 0.015 about 426 people. Sampling was done a randomized, multiple-step and based on the number of students in each field of study, so that each faculty is considered as a class, and the proportion of the number of students in each college was systematically randomized from the student sampling list. The criteria for entering the study were, studying in a field of medical and paramedical sciences in Lorestan University of Medical Sciences, satisfaction to participate in the completion of the questionnaire, and the criteria for withdrawal have been lack of willingness to participate in the study and incomplete filling of the questionnaire. The data gathering tool in this research included three parts of the demographic information questionnaire, a questionnaire related to measuring depression, anxiety and stress was DASS21. The demographic information questionnaire included information such as age, gender, field of study, educational level, marital status, degree of interest in the field of study, history of smoking, family size and birth rate. This questionnaire was used to measure stress, anxiety and depression. The standard questionnaire of the DASS21, were first presented by Laweiband in 1995 which consists of 21 questions with a Likert scale of which each 7 question related to stress, anxiety and depression. In Iran, the reliability of this tool was reported in a sample of Mashhad's general population of 400 people for depression level of 0.70, anxiety 0.66, and stress 0.76 [10]. Jamshidi [13] and Rezaei Adriani [3] in Iran have been tested and approved in various studies. Leviband (1995) also highlighted the first questionnaire with the same questionnaire [14]. In this study, the internal stability of the scale was determined through Cronbach's alpha, 0.86, 0.86 anxiety and 0.73 depression. Table 1 shows the scoring of the DASS21 questionnaire.

Table 1: The method of scoring the DASS21 questionnaire

	Normal	Mild	Medium	Severe	Very severe
Depression	0-4	5-6	7-10	11-13	+14
Anxiety	0-3	4-5	6-7	8-9	+10
Stress	0-7	8-9	10-12	13-16	+17

After collecting information, data analysis was performed using SPSS 11.5 tests, descriptive and inferential statistics such as test, chi-squared, one way ANOVA and correlation coefficient were used. Alpha level 0.05 was considered as a significant level.

RESULTS

In this study, 420 different students of Lorestan University of Medical Sciences were evaluated for the frequency of anxiety, depression and stress

according to the DASS21 questionnaire. The mean age of the students was 21.9 ± 2.7 years. The youngest students were 18 years old and the oldest were 39 years old. 283 students (67.4%) were girls and the rest were boys. The majority of students (87.6%) were married and 41.9% were single. For the age group of all students, 62.9% were in the age group of 25-21 years old and 7.9% were above the age of 25. 40.2% in medical education, 17.9% in midwifery or nursing, 16.2% in laboratory sciences, 13.6% in dentistry, 8.1% in pharmacy and 4% in other fields are studying (Table 2). Regarding the results of examining the family history of students, as seen in Table 2. In the case of the father's education variable, the father's degree of majority of the students is 43.8% of the undergraduate and graduate degree, and the majority of students have a diploma and under diploma.

Table 2: Frequency distribution of studied student's demographic characteristics

Variable	Absolute frequency	Relative frequency (%)	Cumulative frequency (%)
Age	≤ 25	123	29.3
	21-25	264	62.9
	> 25	33	7.9
Sex	Female	283	67.4
	Male	137	32.6
Marital status	Single	368	87.6
	Married	52	12.4
Housing	Dormant	176	41.9
	Non-dormant	244	58.1
Field of study	Medical	169	40.2
	Nursing-Midwifery	75	17.9
	Laboratory sciences	68	16.2
	Dentistry	57	13.6
	Pharmacy	34	8.1
Others	17	4	100

Table 3: Frequency distribution of family characteristics of studied students

Variable	Absolute frequency	Relative frequency (%)	Cumulative frequency (%)
Father's education	Unlettered	37	8.8
	Diploma	141	33.6
	Applied and Bachelor	184	43.8
	Masters and higher	58	13.8
Mother's education	Unlettered	72	17.1
	Diploma	223	53.1
The number of family	Applied and Bachelor	106	25.2
	Masters and higher	19	4.5
	≤ 4	96	22.9
Birthday rank	5	137	32.6
	≥ 6	187	44.5
	First	131	31.2
	Second	132	31.4
	Third	67	16
	Fourth and higher	90	21.4

Table 4: Distribution of severity of depression, anxiety and stress's relative frequency in studied students

Severity of disorder	Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	Total Number (%)
Depression	347(82.6)	43(10.2)	24(5.7)	4(1)	2(0.5)	420(100)
Anxiety	331(78.8)	43(10.2)	35(8.3)	10(2.4)	1(0.2)	420(100)
Stress	370(88.1)	34(8.1)	13(3.1)	3(0.7)	0(0)	420(100)

The majority of students had a family of six and more than six, and the majority of them were ranked second (31.4%) (Table 3).

In the study of depression, 82.6% of the students were normal, 10.2%, 5.7% and 1% had mild types, moderate types and severe depression, respectively. The prevalence of severe depression was 0.5%. Chart 1 shows anxiety disorder, mild, moderate, severe and severe anxiety disorder in 10.2%, 8.3%, 2.4%, 2 / 0%, students were found (Figure 2). Also, 1.8%, 1.3% and 0.7% of students had mild stress, moderate stress, severe stress, respectively (Table 4). The prevalence of different degrees of depression, anxiety and stress in students was 17.4%, 21.2%, 11.9%, respectively (Diagram 4).

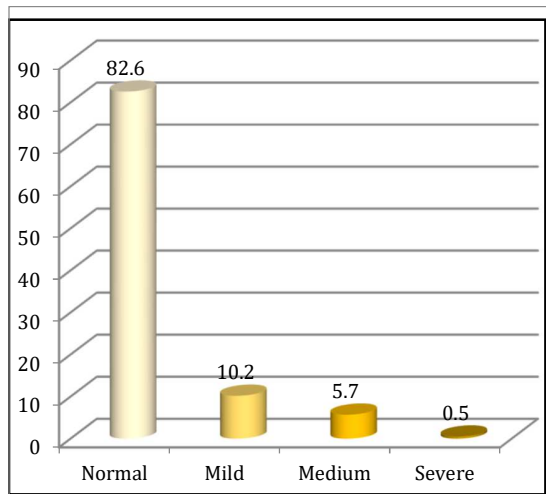


Diagram 1: Distribution of Relative Frequency of Degrees of Depression in Students

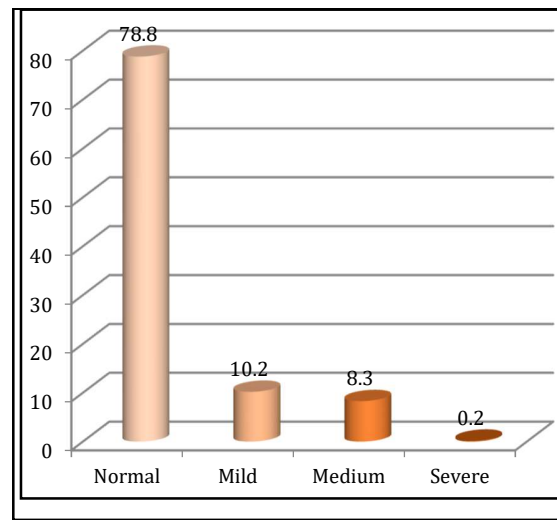


Diagram 2: Distribution of the relative frequency of anxiety levels among students

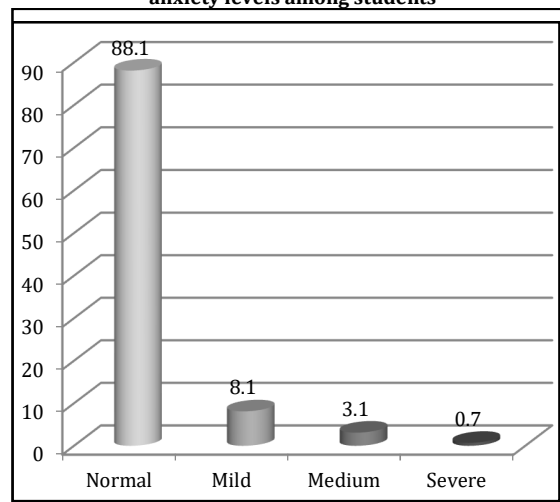


Diagram 3: Distribution of Relative Frequencies of Stress in Students Studying

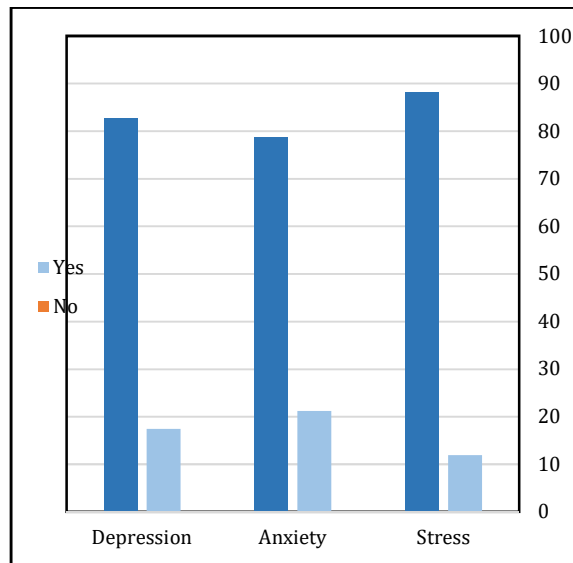


Diagram 4: Distribution of Relative Frequency of Depression, Anxiety and Stress in Students

The distribution of the depression severity frequency in the studied students was by gender (P-value = 621/0), age (P-value = 0.809), marital

Table 5: Aggregate Distribution of Depression Intensity Relative Frequency in Students Examined by Gender, Age, Marital Status, Field of Study and Current Location

Depression Level	Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
Age	≤ 20	101(82.1)	15(12.2)	5(4.1)	1(0.8)	0.809
	21-25	291(83)	26(9.8)	16(6.1)	2(0.98)	
	> 25	27(81.8)	2(6.1)	3(9.1)	1(3)	
Sex	Female	229(80.9)	31(11)	19(6.7)	3(1.1)	0.621
	Male	118(86.1)	12(8.8)	5(3.6)	1(0.7)	
Marital status	Single	302(82.1)	42(11.4)	20(5.4)	3(0.8)	0.102
	Married	45(86.5)	1(1.9)	4(7.7)	1(1.9)	
Housing	Dormant	141(80.1)	21(11.9)	12(6.8)	1(0.6)	0.690
	Non-dormant	206(84.4)	22(9)	12(4.9)	3(1.2)	
Field of study	Medical	139(82.2)	15(8.9)	13(7.7)	2(1.2)	0.666
	Nursing- Midwifery	60(80)	9(12)	3(4)	2(2.7)	
	Laboratory sciences	55(80.9)	9(13.2)	3(4.4)	0(0)	
	Dentistry	47(82.5)	8(14)	2(3.5)	0(0)	
	Pharmacy	29(85.5)	2(5.9)	3(8.8)	0(0)	
	Others	17(100)	0(0)	0(0)	0(0)	

Table 6: Aggregated Distribution of Depression Intensity's Relative Frequency in Students Examined by Family Number and Birth Rank

Depression Level	Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
The Number of family	≤ 4	81(84.4)	11(11.5)	4(4.2)	0(0)	0.396
	5	115(83.9)	14(10.2)	8(5.8)	0(0)	
	≥ 6	151(80.7)	18(9.6)	12(6.4)	4(2.1)	
Birthday rank	First	110(84)	17(13)	4(3.1)	0(0)	0.374
	Second	110(83.3)	14(10.6)	6(4.5)	1(0.8)	
	Third	54(80.6)	6(9)	6(9)	1(1.5)	
	Fourth	47(85.5)	3(5.5)	3(5.5)	1(1.8)	
	Fifth and higher	26(74.30)	3(8.6)	5(14.3)	1(2.9)	

status (P-value = 0.108), field of study (P-value = 0.656), and current residence (P-value =0.690) was not statistically significant (Table 5).

According to Table 6, the severity of depression in the studied students was not different significantly by the number of families (P-value = 0.396) and birth rate (P-value= 0.374).

Based on the results of Table 7, the distribution of the anxiety severity's relative frequency in the studied students was based on chi-square test, sex (P-value = 421), age (P-value = 0.190), and marital status (P-value = 0.602), field of study (P-value = 0.984) and the current status quo (P-value = 0.361) was not different significantly.

Based on the results of Table 8, the frequency distribution of anxiety severity in the studied units was not different significantly by the number of families (P-value = 0.437) and birth rate (P-value = 0.554).

Table 7: Aggregate Distribution of Extreme Intensity's Relative Frequency in Students Examined by Gender, Age, Marital Status, Field of Study and Current Location

Depression Level		Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
Age	≤ 20	94(76.4)	15(12.2)	11(8.9)	2(1.6)	1(0.8)	0.190
	21-25	211(79.9)	25(9.5)	23(8.7)	5(1.9)	0(0)	
	≥ 25	26(78.8)	3(9.1)	1(3)	3(9.1)	0(0)	
Sex	Female	226(79.9)	26(9.2)	23(8.1)	8(2.8)	0(0)	0.421
	Male	105(76.6)	17(12.4)	12(8.8)	2(1.5)	1(0.7)	
Marital status	Single	278(78)	39(10.6)	33(9)	8(2.2)	1(0.3)	0.602
	Married	44(84.6)	4(7.7)	2(3.8)	2(3.8)	0(0)	
Housing	Dormant	132(75)	21(11.9)	16(9.1)	6(3.4)	1(0.6)	0.361
	Non-dormant	199(81.6)	22(9)	19(7.8)	4(1.6)	0(0)	
Field of study	Medical	131(77.5)	16(9.5)	15(8.9)	6(3.6)	1(1.6)	0.984
	Nursing- Midwifery	58(77.3)	7(9.3)	9(12)	1(1.3)	0(0)	
	Laboratory sciences	53(77.9)	9(13.2)	4(5.9)	2(2.9)	0(0)	
	Dentistry	48(84.2)	6(10.5)	3(8.8)	1(2.9)	0(0)	
	Pharmacy	26(76.5)	4(11.8)	3(8.8)	0(0)	0(0)	
	Others	150(88.2)	1(5.9)	1(5.9)	0(0)	0(0)	

Table 8: Aggregate Distribution of the Anxiety Intensity's Relative Frequency in Students Examined by Family Number and Birth Rank

Depression Level		Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
The Number of family	≤ 4	75(78.1)	11(11.5)	9(9.4)	1(1)	0(0)	0.437
	5	115(83.9)	10(7.3)	9(6.6)	2(1.5)	1(0.7)	
	≥ 6	141(75.4)	22(11.8)	17(9.1)	7(3.7)	0(0)	
Birthday rank	First	100(76.3)	15(11.5)	14(10.7)	1(0.8)	1(0.8)	0.554
	Second	108(81.8)	10(7.6)	9(6.8)	5(3.8)	0(0)	
	Third	56(83.6)	8(11.9)	3(4.5)	0(0)	0(0)	
	Fourth	43(78.2)	6(10.9)	4(7.3)	2(3.6)	0(0)	
	Fifth and higher	24(68.6)	4(11.4)	5(14.3)	2(5.7)	0(0)	

Table 9: Aggregate Distribution of Relative Frequency of Stress Severity among Students Examined by Gender, Age, Marital Status, Field of Study and Current Location

Depression Level		Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
Age	≤ 20	113(91.9)	7(5.7)	2(1.6)	1(0.8)	0(0)	0.721
	21-25	229(86.7)	24(9.1)	9(3.4)	2(0.8)	0(0)	
	≥ 25	28(84.4)	3(9.1)	2(1.6)	0(0)	-	
Sex	Female	245(86.6)	25(8.8)	10(3.5)	3(1.1)	0(0)	0.421
	Male	125(91.2)	9(6.6)	12(8.8)	2(1.5)	1(0.7)	
Marital status	Single	323(87.8)	29(7.9)	13(3.5)	3(0.8)	-	0.482
	Married	47(90.4)	5(9.6)	0(0)	0(0)	-	
Housing	Dormant	150(85.2)	17(9.7)	8(4.5)	1(0.6)	-	0.341
	Non-dormant	220(90.2)	17(7)	5(2)	2(0.8)	-	
Field of study	Medical	148(87.6)	14(8.3)	6(3.6)	1(0.6)	-	0.134
	Nursing- Midwifery	60(80)	11(14.7)	3(4)	1(1.3)	-	
	Laboratory sciences	63(92.6)	4(5.9)	1(1.5)	0(0)	-	
	Dentistry	55(96.5)	1(1.8)	1(1.8)	0(0)	-	
	Pharmacy	28(82.4)	4(11.8)	2(5.9)	0(0)	-	
	Others	160(94.1)	0(0)	0(0)	1(5.9)	-	

Table 10: Aggregate Distribution of Relative Frequency of Stress Severity in Students Examined by Separate Number of Family and Birth Rank

Depression Level		Normal Number (%)	Mild Number (%)	Medium Number (%)	Severe Number (%)	Very severe Number (%)	P-value
The Number of family	≤ 4	83(86.5)	9(9.4)	3(3.1)	1(1)	-	0.437
	5	122(89.1)	10(7.3)	4(2.9)	1(0.7)	-	
	≥ 6	165(88.2)	15(8)	6(3.2)	1(0.5)	-	
Birthday rank	First	116(88.5)	10(7.6)	4(3.1)	1(0.8)	-	0.554
	Second	117(88.6)	12(9.1)	3(2.3)	0(0)	-	
	Third	62(92.5)	4(6)	1(1.5)	0(0)	-	
	Fourth	48(87.2)	5(7.3)	2(3.6)	1(1.8)	-	
	Fifth and higher	27(77.1)	4(11.4)	3(8.6)	1(2.9)	-	

As the results of Table 9 shows, the frequency distribution of stress intensity in the studied students was by gender (P-value= 0.423), age (P-value = 0.721), marital status (P-value = 0.482), field of study (P-value = 0.134) and residence (P-value = 0.341) were not different significantly.

According to Table 10, the distribution of relative frequency of stress was not different significantly in the studied students by the number of families (P-value = 0.996) and birth rank (P-value = 0.560).

DISCUSSION AND CONCLUSION

The results of this study indicate that among 420 students studying at Lorestan University of Medical Sciences, 264 students were with a mean age range of 21-25 years, which is much higher than in the study of Koliani *et al.*, [2]. The results of this study also show that stress and depression among students with an average age of 25-21 years are much higher than those of other students. The study of Koliani *et al.*, [2] suggests that stress and depression are less common in students with less than other students, but in the study by Qaemi *et al.*, [22], the results indicated that stress and depression were higher in students with higher ages. Differences in the results of studies can be due to the university studied and the studied fields.

The results of the study indicate that 368 single students are in the study of Koliani and Adriani *et al.*, [2, 17] the results show that single students are significantly more than married students. Increasing social, cultural and economic problems will reduce the number of married people among students.

The results of this study showed that 17.4%, 21.2% and 11.9% of students had depression (medium to very severe), anxiety (medium to very

severe) and stress (medium to very Severe), respectively. A study by Koliani *et al* [2] that was conducted on students of Fasa University of Medical Sciences that 76%, 56.4% and 53.1% of students have reported stress, depression and anxiety, respectively. The increase in stress levels, anxiety and depression among students has been confirmed in various studies [2, 17], which indicates that students have psychological problems during their studies.

The results of this research indicate that among the studied variables, the degree of education of undergraduate students' father is much higher than the other level of education, as well as the level of mother' education under the diploma and diploma is much higher than the level of education, which is consistent with Hashemi *et al.*, [23].

The results of this study show that, among the studied variables, the number of students in their family is 6 and higher among students. In the study of Madmoli *et al.*, [24], the results indicate that the majority of surveyed students have a family of 6 or more. However, increasing the number of families can have a positive effect on depression, stress and anxiety [25], but in Madmoli *et al.*, [24], the results indicate that an increase in the number of families would be associated with increased stress, depression and anxiety. Also, the results of this study indicate that the rate of depression and anxiety among students with a family of 6 and more is much higher than the number of families with less than 6 people. According to Madmoli *et al.*, [24], the results indicate that the increase in the number of family members increases stress, depression and anxiety. The results of this study indicate that 132 students are the second child of the family. Also, the rate of depression, anxiety and stress in 5th and older children is much higher than the other

births of the children, which is indicated by the study [26] that is, the lower the birth rank, and the more likely it is to reduce depression, stress and anxiety.

The results of the study show that among 420 students participating in the study, 283 female students, and the mean of depression and stress in female students is much higher than that of male students. In the study of Koliyani *et al.*, [2], stress and depression in female students are much higher than that of male students. However, in the study of Adriani *et al.*, [17], the stress and depression of male students are more than female students, which can be explained by the place of study. Increasing students' stress and depression expressed due to economic, cultural and social problems. Increasing the amount of work and stress will lead to student drop-outs [2, 7].

In studying the variables of study in the fields of study in students, it was found that depression and stress in nursing and midwifery students are much higher than other fields. In the study of Socrjouqi Farahani *et al.*, [27], the results show that the level of depression in nurses is very severe, and also in the study of Feryal *et al.*, [28], the results of the study indicate that the stress level, there are so many nurses. The difference between stress and depression in comparison with other fields of study can be due to the academic conditions and future career in other fields.

The results of this research indicate that stress, depression and anxiety in dormitory students are much higher than non-dormitory students. In the study of Tangeda *et al.*, [29], the results of their study showed that stress, anxiety and depression in students are much more accommodated. Avoiding family, environmental conditions and social conditions can be attributed to stress, anxiety, and depression.

The limitations of this study can be expressed self-report measurements to measure psychological variables. It is suggested that, in addition to using the Self-Reporting Assessment Clinical Examination and interviews, a better diagnosis of psychological problems should be done. Another limitation is the study of sample size shortages, which suggests that in the future studies a larger sample of psychological problems should be considered.

According to the findings of the study, it can be concluded that the stress levels, anxiety and depression in students are very severe and require proper planning as well as the special attention of respectable officials. Honorable authorities can help to resolve their problems and increase their mental and psychological health in future societies in the country.

Acknowledgments

This study was carried out as a research project under the number (A -10-1790-1) and date of 2017/3/1 with the support of the vice chancellor for research of Lorestan University of Medical Sciences. The authors thanked the Vice-Chancellor for Research and Technology of the University of Science Lorestan Medicine, as well as all the patients and medical staff who have done our best for us, we are grateful. And also, thank you to all those who have guided us to the best of our study.

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