

Stress, anxiety and depression among medical university students and its relationship with their level of happiness

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Abstract:

Background and aim: Similar to psychological issue, student's level of happiness also affects their academic achievement. In present study, we examined level of stress, anxiety and depression among medical university students and its relationship with their level of happiness.

Methods: This cross-sectional correlation study performed between January 2015 and March 2015 in Kerman University of Medical Science in Iran. Using sample formula and stratified sampling method 300 students were invited to participate in the study. The DASS-21 and Oxford happiness questionnaire was used to assess the students psychological problems (Stress, anxiety and depression) and level of happiness respectively. All statistical analyses were performed using SPSS software (v17.0).

Results: Of 300 students, who invited, 269 participated in the study (response rate 89.6%); 64.7% were female and 25.3% were male. The mean total DASS-21 score was 17.7 ± 10.2 . The mean domain scores for stress, anxiety and depression were 7.53 ± 4.11 , 4.81 ± 3.73 , 5.42 ± 4.21 respectively. The mean score of happiness were 4.04 ± 0.68 (range between 2.2 to 6). Results of present study also showed correlation between mean score of happiness with students level of anxiety ($rr = -0.364$; $p = 0.001$), students level of depression ($rr = -0.616$; $p = 0.001$) and students level of stress ($rr = -0.480$; $p = 0.001$) significantly.

Conclusion: Happiness and psychological issue such as stress, anxiety and depression has important effect on the success of medical students. Results of present study revealed that level of stress, anxiety and depression among medical students is high that have negative correlation with their level of happiness.

Keywords: psychological issue, happiness, medical university, Iran

I. Introduction

World Health Organization (WHO) considered mental health as an essential component of human health [1]. Medical education is highly challenging and perceived as being stressful that affects students' mental health negatively [1, 2, 3]. Psychological distress such as stress, anxiety and depression are frequent among medical students that may affect their learning and academic performance, physical health and psychosocial well-being [4, 5, 6].

Happiness is a very important factor in human life and comprised of at least three components: emotional, social and cognitive [7]. Happiness is one of human personality features which can assist with overcoming the stresses and pressures of life [8]. Happy people have optimistic attitude to the events and instead of negative attitudes to the events, they try to use these events. Medical students are less happy compared to other students in university because of specific education and work conditions [9]. Similar to psychological issue, students level of happiness also affect their academic achievement [10].

Students level of happiness may be affect their level of stress, anxiety and depression. However to our knowledge, no study exist that examined correlation between happiness and level of stress, anxiety and depression among medical university students. So, present study conducted to fulfill this aim.

II. Methods

This cross-sectional descriptive study performed between January 2015 and March 2015 in Kerman University of Medical Science in Kerman, a province in south east of Iran. This university has six college includes: medicine, pharmacy, dentistry, nursing, health and paramedic. Using sample formula and stratified

sampling method 300 students were invited to participate in the study. Consent was implicit by respondent's decision to return the completed questionnaire. Participants were assured that all data would remain anonymous, kept confidential and be stored safely. Ethical approval was obtained from Kerman University of Medical Sciences and the heads of six colleges prior to the collection of any data. Questionnaire packages containing a covering letter describing the aims of the study, a demographic variables questionnaire, DASS-21 and Oxford happiness questionnaire.

The DASS-21 was developed by Lovibond and Lovibond and is a 21-item self-report instrument designed to measure the three related negative emotional states of depression, anxiety and stress [11, 12]. Validity and reliability of Iranian version of DASS-21 were determined in good level by previous study (chronbach alpha 0.77, 0.79 and 0.78 for depression, anxiety and stress domain respectively) [13]. The Oxford happiness questionnaire is a 29-item multiple choice instrument. Each item contains four options, constructed to reflect incremental steps defined as: unhappy or mildly depressed, a low level of happiness, a high level of happiness, and mania. The respondents were asked to "pick out the one statement in each group which best describes the way you have been feeling over the past week, including today." Information about internal consistency, reliability, and construct validity of the Persian version of Oxford happiness questionnaire is provided by previous study [14].

Descriptive statistics, Pearson correlation coefficient, independent sample T-test, one way ANOVA and logistic regression were used for data analysis. All statistical analyses were performed using SPSS software (v17.0) and a variable was considered to be statistically significant if $P < 0.05$.

III. Results

Of 300 students, who invited, 269 participated in the study (response rate 89.6%); 64.7% were female and 25.3% were male. The mean age of participants was 21.82 ± 2.57 years (range between 18 to 38 years). Some 16% of students were married and the rest were single. The mean of students' course score were 16.1 ± 1.6 .

The mean total DASS-21 score was 17.7 ± 10.2 . The mean domain scores for stress, anxiety and depression were 7.53 ± 4.11 , 4.81 ± 3.73 , 5.42 ± 4.21 respectively. Table 1 showed student level of stress, anxiety and depression in details. Among all students, rate of anxiety and depression were higher in medicine students. Rate of stress were higher among dentistry students. However these differences between students were not statistically significant ($p > 0.05$). Results of present study showed correlation between mean of students mean of grade point averages and students level of anxiety ($rr = -171$; $p = 0.04$) and depression ($rr = -145$; $p = 0.01$) significantly. Mean of depression score also were higher among men students compared to female significantly ($p = 0.04$).

The mean score of happiness were 4.04 ± 0.68 (range between 2.2 to 6). Higher and lower rate of happiness were related to nursing and medicine students respectively. However this difference between groups were not statistically significant ($p > 0.05$) (table 2). Results of present study also showed correlation between mean score of happiness with students mean of grade point averages ($rr = 214$; $p = 0.002$), students level of anxiety ($rr = -364$; $p = 0.001$), students level of depression ($rr = -616$; $p = 0.001$) and students level of stress ($rr = -480$; $p = 0.001$) significantly.

IV. Discussion

Students in each society are human sources that make future of their country and existence of psychological problems among students has many serious effects [15]. Medical field is one of the fields that due to the clinical period and the pressures of hospitals and stressful environment have considerable effects on happiness and their job performance [9]. In present study we examined correlation between happiness and level of stress, anxiety and depression among medical university students. According to finding of present study, more than half of students showed some degree of stress, anxiety and depression. Results also showed correlation between students stress, anxiety and depression with their level of happiness.

To our knowledge, this is first study that examined correlation between stress, anxiety and depression with their level of happiness in medical university students. However studies that examined students' happiness and mental status separately has been increasing in recent years. In a cross-sectional study in this regards in 2015, Iqbal et al., examined stress, anxiety and depression among medical undergraduate students in India with using DASS 42. Similar to finding of present study, results of Iqbal et al., study showed that more than half of the students were affected by depression (51.3%), anxiety (66.9%) and stress (53%). They concluded that counseling services need to be made available to the students in the medical college to control this morbidity [16]. In another study in this regards, Khan et al., examined prevalence of depression, anxiety and their associated factors among medical students in Pakistan. Khan et al., reported that rate of anxiety and depression is very high among medical students that is higher than rate of anxiety and depression determined in present study [17]. This different could be related to difference in instruments used in two studies for measuring level of depression and anxiety. We used DASS 21 and Khan et al., used Khan University Anxiety and Depression Scale

(AKUADS). Early detection of psychiatric distress is important to prevent psychiatric morbidity in medical students [18]. Factors such as the pressure of academics with an obligation to succeed, examinations, fear of failure, uncertainties regarding achievement, uncertainty regarding supervisors' expectations, difficulties of integrating into the system, an uncertain future, excessive competitive attitude among students, work and financial responsibilities, unsatisfactory living conditions in the hostel, inadequate library facilities, Physical problems and political conflicts that be considered by educational systems in order to prevent occurrence of psychological distress among medical students [3, 4, 18, 19, 20].

Happiness also is an important factor that affects students' academic achievement. Level of student happiness in present study was moderate. In one study in this regards in 2010, Sheikmoonesi et al., examined happiness and associated demographic factors among medical students. The mean score of happiness of medical students in Sheikmoonesi et al., was 41.23 that is similar to finding of present study. Sheikmoonesi et al., also reported that students age and physical health influenced their level of happiness [7]. In another study in this regards, Tavan et al., examined relationship between self-esteem and happiness among students in medical university. Level of happiness in Tavan et al., study was similar to finding in present study. Tavan et al., also reported that student with higher level of self-esteem have higher level of happiness [21]. In another study in 2014, Saffari et al., with using similar questionnaire examined the relationship between happiness and academic achievement among medical students. The mean score of happiness in Saffari et al., study was 4.36. In addition, Saffari et al., reported positive correlations between students level of happiness and their academic achievement [10].

V. Conclusion

Happiness and psychological issue such as stress, anxiety and depression has important effect on the success of medical students. Results of present study revealed that level of stress, anxiety and depression among medical students is high that have negative correlation with their level of happiness. It's recommended that medical universities managers pay more attention to this issue in educational planning.

VI. Limitation

This study has some important limitations. As this study was based on a convenience sample and participation was voluntary, there might have been a selection bias that affected the possibility to generalize the results to all students. Furthermore, the use of self-report questionnaires may have led to an overestimation of some of the findings due to variance, which is common in different methods.

Acknowledgements

The authors wish to acknowledge Kerman University of Medical Science for enabling data collection.

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Table 1: student level of stress, anxiety and depression in details

Item		Medicine	Nursing	Paramedic	Health	Dentistry	Pharmacy	P value
Depression	Normal	36	17	10	36	8	19	P=0.41
	Mild	12	7	4	14	1	5	
	Moderate	25	6	1	17	5	13	
	Severe	9	0	3	5	2	2	
	Very severe	5	0	0	2	1	4	
Anxiety	Normal	36	16	7	33	6	16	P=0.71
	Mild	14	10	6	15	4	8	
	Moderate	15	1	2	10	1	6	
	Severe	11	2	1	8	3	5	
	Very severe	11	1	2	9	3	8	
Stress	Normal	46	17	7	35	9	27	P=0.53
	Mild	12	7	6	15	3	4	
	Moderate	16	3	5	17	3	7	
	Severe	12	3	0	6	1	5	
	Very severe	1	0	0	1	1	0	

Table 2: mean score of student level of stress, anxiety, depression and happiness

Items	Medicine	Nursing	Paramedic	Health	Dentistry	Pharmacy	P value
Happiness	3.88±0.64	4.26±0.61	4.26±0.62	4.01±0.65	4.24±0.75	4.00±0.81	P=0.17
Depression	6.12±4.44	4.00±3.12	4.61±3.79	5.05±3.86	5.64±4.45	5.88±4.86	P=0.33
Anxiety	4.90±3.86	3.73±2.82	4.50±2.83	4.58±3.59	5.76±3.16	5.55±3.34	P=0.96
Stress	7.68±4.46	7.06±4.25	8.00±2.58	7.60±4.02	7.29±4.29	7.30±4.08	P=0.05