

ORIGINAL ARTICLE

Relationship of Self-esteem with Depression, Anxiety and Stress among Pakistani medical students

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ABSTRACT

Background: Previous research on self-esteem highlights that low self-esteem is related to higher levels of anxiety, depression and stress. However, this relationship has not been clearly demonstrated in Pakistani adolescents and young adults.

Aim: To explore the relationship between self-esteem and the prevalence of anxiety, depression and stress in Pakistani medical students.

Methods: The study was conducted at Shalamar medical and dental college (SMDC) from August to September 2016. 273 students participated in this study which was approved the ethical review board at SMDC. Depression, anxiety and stress scale (DASS) was used to assess stress, anxiety and depression and Rosenberg self-esteem scale (RSES) was used to assess self-esteem.

Results: A significant inverse relationship was found between self-esteem and the prevalence of anxiety depression and stress i.e. higher levels of self-esteem tended to correlate significantly with lower prevalence of anxiety, depression and stress in our study population.

Conclusions: It is important to assess self-esteem among individuals who present with symptoms of anxiety and depression. Training on how to boost one's self-esteem can be one of the strategies used to treat and prevent depression and anxiety, especially among students and young adults.

Keywords: self-esteem, depression, anxiety, stress, Pakistani Medical students

INTRODUCTION

Previous research on self-esteem and its relationship with stress, anxiety and depression tells us that self-esteem is a construct defined as the positive or negative attitude towards the self, or more briefly, as global self-worth¹.

The relationship of self-esteem with emotional distress has been studied in previous scientific papers^{2,3,4}. Low self-esteem has been documented to be directly associated with higher levels of anxiety, depression and stress^{5,6,7} while improvement in self-esteem has been shown to mitigate stress and emotional distress⁸. There is still significant debate regarding whether low self-esteem predicts emotional distress or vice versa. Sowislo & Orth⁵ found low self-esteem to predict depression strongly but the results for anxiety were equivocal.

Stress has been positively related to anxiety and depression among medical students, one study conducted in the USA found that frequency of depression was 12%, with positive family history and increased frequency of depression even before medical school, among the depressed students⁹. Another study found that depression peaked in 2nd year at 25% and at any given time at least 12% of the class was depressed. The BDI scores did not vary much with time, indicating that, for many depressed students, it was a chronic state¹⁰.

A Swedish study¹¹ on depression and stress in medical students found a prevalence of 12.9%, greater among females and with 2.7% attempting suicide. Studies pressure, workload and teaching shortcomings were sources of stress.

Similar studies done in developing countries show us that, in Saudi Arabia¹² 57% of students felt emotionally distressed. Both stress and depression were highest in first 3 years of studies. Another study done in Saudi Arabia¹³ found anxiety and depression to be higher in 1st year.

In a Turkish study¹⁴, 17.8% of medical students were seen to have an emotional disorder, associated with multiple academic, family and relationship related stress. In India¹⁵, 49.1% of students

had clinically significant depression, associated with first 2 years of study. Another study in India among medical students shows that 45.6% participants showed mild stress, 7.7% showed moderate stress and 1.1% showed severe stress. Total 85.6% participants had high self-esteem however 50% participants reported depression⁴.

On contrary, in Brazil¹⁶ overall frequency of depression was 38% and higher scores, in "internship period" of 5th and 6th years, possibly indicating different stressors in that environment.

Similar work on medical students in Pakistan has yielded even higher rates of emotional distress¹⁷ with anxiety at 47.7% and depression at 35.5%. Other work¹⁸ done in Pakistan turned up anxiety rates of 43.7% and depression 19.5%, associated with hostel life, recent negative life event and first 2 years.

At Nishtar Medical College¹⁹, anxiety and depression were found to be 43.89%. Even higher rates of anxiety and depression, of 60%²⁰ and 70%²¹ were found at two Karachi medical colleges, and associated with the first 2 years of study. There was scarcity of researches on the impact of self-esteem on stress, anxiety or depression specifically among medical students in the literature in Pakistan as per our knowledge.

The purpose of this study, therefore, is to investigate the relationship of self-esteem with stress, anxiety and depression among medical students and to explore how self esteem predict above mentioned variables in students of Shalamar Medical and Dental College, Lahore.

The hypothesis for the current study was that self esteem will correlate will scores of anxiety, depression and stress. Moreover we hypothesize that self esteem will predict depression, anxiety and stress among medical students.

METHOD

The study was conducted at Shalamar Medical and Dental College, Lahore from August to September 2016. Ethical approval for this study was formally sought from the ethical review board at Shalamar Medical and Dental College. We decided to use the Depression Anxiety and Stress Scale (DASS)²² to assess depression, anxiety and self esteem and the Rosenberg Self-

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esteem Scale²³ to assess the level of self esteem. Students were approached after one of their lectures. A team member explained the purpose and objectives of the study and the students were requested to voluntarily take part in the study. All the data was collected anonymously. Students of all the study years (1st year to final year MBBS) were approached. 313 students completed the questionnaires after signing formal consent to be included in the study. We decided to exclude students who reported they were currently suffering from a psychiatric or a medical disorder. Thus finally 273 students were included in the study. SPSS 21 was used to interpret the collected results.

RESULTS

In accordance with our hypotheses, we found a significant relationship between low self esteem and higher scores on depression, anxiety and stress in our study participants. Female students accounted for 57.5% of the participants. The mean age of the students was 21.67 years with ages ranging from 18 to 26 years.

Table 1: Gender and Study year distribution of first to final year students of Shalamar Medical and Dental College

	f	%
Gender		
Male	116	42.5
Female	157	57.5
Study Year		
First	42	15.4
Second	53	19.4
Third	78	28.6
Fourth	55	20.1
Fifth	45	16.5

Note: N=273, f= Frequency, %=Percentage

Table 2: Severity of depression, Anxiety and Stress among Study year distribution of first to final year students of Shalamar Medical and Dental College

	Normal	Mild	Moderate	Severe
Depression				
First	20	15	6	1
Second	23	14	16	0
Third	58	10	10	0
Fourth	30	13	12	0
Fifth	40	2	3	0
Total	171	54	47	1
Anxiety				
First	18	6	13	5
Second	16	11	16	10
Third	50	7	16	5
Fourth	21	14	14	6
Fifth	32	1	11	1
Total	137	39	70	27
Stress				
First	22	18	2	0
Second	30	21	2	0
Third	67	9	2	0
Fourth	47	8	0	0
Fifth	39	5	1	0
Total	205	61	7	0

Note: N=273, f= Frequency, %=Percentage

Table 3: Inter-Correlations, Means, and Standard Deviations of Depression, Anxiety, Stress and Total Self esteem score among first to final year students of Shalamar Medical and Dental College

	1	2	3	4
Depression	-			
Anxiety	.60**	-		
Stress	.58**	.53**	-	
Total self-esteem	-.42**	-.34**	-.34**	-
M	1.55	1.96	1.27	27.15
SD	0.78	1.09	0.50	3.83

Note: M=Mean, SD= Standard Deviation. *= $p < 0.05$, **= $p < 0.01$.

Table 2 identifies that 62% of students fall in normal, 19% students fall in mild, 17% students fall in moderate category of depression. In anxiety 50% students fall in normal, 14% fall in mild, 25% of students fall in moderate and 10% students fall in severe category. In domains of stress, 75% students fall in normal, 22% students fall in mild, 2% students fall in severe category of stress.

Table 3 indicates that scores of total self esteem shows significant negative correlation with scores of depression, anxiety and stress. This shows that as the scores of self esteem increases, scores of depression, anxiety and stress decreases and vice versa.

Table 4: Self esteem as predictor of Depression, Anxiety and Stress among first to final year students of Shalamar Medical and Dental College

Variable	b	R ²	F
Depression	-.08	.181	59.70***
Anxiety	-.09	.119	36.59***
Stress	-.04	.122	37.70***

Note: N=273. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4 represents that all three regression model significantly predict depression, anxiety and stress. *b* value shows that if self esteem is increased by one unit, then according to regression model it leads to .08 unit decrease in depression, .09 unit decrease in anxiety and .04 unit decrease in stress. *R*² value represents that self esteem shares highest variance in depression and lowest in anxiety.

DISCUSSION

Medical education studies have been recognized as demanding and longer in duration. Medical students encounter different types of challenges during studies, including heavy workloads, academic pressure, lack of time, insomnia, and sometimes financial constraints. All these factors can lead to depression, anxiety and stress among students^{24,25}.

Our study reveals that female participants are slightly larger in number 57% as compared to male participants (52%). In previous study, female adolescents were seen by one group of researchers to have increased depression and anxiety which was mediated by low self-esteem.²⁸ In another study in USA, it was found that higher self-esteem reduced emotional distress through a "sense of coherence" which is the extent to which a stressor is comprehensible, perceived to be manageable and meaningful²⁹.

Another additional, but interesting result shown by our study was that medical student had highest rates of emotional distress during 2nd year. Work done in the US¹⁰ also found depression peaking during 2nd year. Research done in Saudi Arabia found rates of emotional distress to be higher in 1st year¹⁵, while another study in the same country found increased rates in the first 3 years¹². Studies from both India¹⁴ and Pakistan¹⁸ both found emotional distress rates higher in the first 2 years. A study from Brazil¹⁶, on the other hand, showed a different picture, with emotional distress peaking during 5th and 6th years. On the whole, our findings were in accord with most other work, emphasizing the need for greater support during the first 2 years.

Our study identifies that there are significant inverse relationships of self-esteem scores with depression, anxiety and stress. Self-esteem also negatively predicts depression, anxiety and stress individually. The result of our study aligns with the previous research conducted in Ghana²⁸ India^{29,30} Turkey³¹ that indicate inverse relationships of self-esteem with depression and anxiety. Previous work on the association between self-esteem and emotional disturbance (anxiety and depression) in Pakistan has shown that depressive men tend to self-appraise negatively.⁷

Work done upon the association between stress and self-esteem³² has shown a positive association between elevated levels of stress and low self-esteem in university students. An inverse relationship between stress and self-esteem was also seen in nursing students throughout their training period. Furthermore, the study also stated that self-esteem predicts stress.³³ This relationship may be due to self-appraisal affecting one's perception

of their competence and thus, coping ability in the face of any stress.

Another trend spotted while looking at Pakistani, developing world and first world studies above is the higher frequency of emotional distress among 3rd world medical students^{13,14,15} as well as even higher levels in Pakistan^{20,21}. The reasons for this deserve to be investigated in future work, but one factor that stands out is the somewhat unique nature of the stresses faced in a 3rd world context, such as parental expectations³⁴ and having studied pre-medical in medium of instruction other than that of the medical college¹⁴.

Furthermore, prevention and mitigation of low self-esteem should be a priority in society, even at an early stage in life, before one's self-schemas become stable and hard to change. This may be achieved by changing child-rearing and educational practices in families and schools. It is at the hands of parents³⁵ and teachers³⁶ that a child's self-esteem is initially molded and often scarred.

Regarding our medical student body, remedies and techniques for improving self-esteem and emotional health are present within modern mental health and counseling^{8,37}. Students need to be made aware of these, and of the importance of taking care of their own mental health, so that they can use the facilities available on campus.

Besides this, very simple and feasible interventions to improve emotional disorder and self-esteem may be advocated, such as regular physical activity/exercise³⁸. Such interventions would result in improved academic and psycho-social outcomes in our students.

CONCLUSIONS

We have confirmed the relationship between self-esteem, stress and anxiety as well as depression among medical students. The roots of poor self-esteem are found in early child-rearing and teaching practices. Reform of these, as well as provision of mental health facilities and awareness to medical students may improve the self-esteem, stress management as well as psychological distress among medical students.

Conflict of interest: Nil

Author contribution: HCR: Data collection, data entry, Data Analysis, Interpretation of results, write up of article Interpretation of results, write up of article, OH: Interpretation of results, write up of article, MAWK: Data collection, planning of study, SBM: Planned and supervised overall study, IAM: Data collection

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