Emotional Intelligence and It's Association with Stress Level: A Study among Medical Students

Deepak Malik 1* , Sudha Chaudhary[2], Nupur Kumari[3]
[1]M.Phil Scholar, Department of Psychiatry, Pt. B.D. Sharma PGIMS, Rohtak, Haryana, India
[2]Psychiatric Social Worker, Institute of Mental Health, PGIMS, Rohtak, Haryana, India
[3]Research Scholar, Department of Psychiatric Social Work, RINPAS, Ranchi, Jharkhand, India
Email - [1]malikdeepak1987@gmail.com, [2]sudha14091965@gmail.com, [3]nupurcip@gmail.com,
Correspondence to: Sudha Chaudhary, Psychiatric Social Worker, Institute of Mental Health, PGIMS, Rohtak, Haryana, India
*Present Address: Scientist 'B', Div. of Socio-Behavioral & Health Systems Research, Indian Council of Medical Research, New Delhi, India.

Abstract: *The emotional intelligence is a basis for dynamic, adaptive coping with stress. The persons with high level of emotional intelligence can better recognize impending stressors, can use emotions effectively in coping with problem, as far as they cope in better way with negative emotions evoking in stressful situation. The authors verify that the level of stress is connected with the level of emotional intelligence. The study was conducted among second year students of M.B.B.S. from Post Graduate Institute of Medical Sciences, Rohtak. Two standardized instruments were used in the study, i.e. Emotional Intelligence Scale (EIS) which measures emotional intelligence understood as an ability to distinguish, understand and control emotions in a better way and State Trait Anxiety Inventory (STAI) which measures stress level understood as a state (situational) or trait (personality endurable characteristic) condition of personality. The results confirm that persons with high level of emotional intelligence are experience less level of stress. It has been stated that people with higher results in case of emotional intelligence undertake more willingly active acts confronting with problem. Persons who have low results in domain of emotional intelligence experience more stress. Conclusions: The results of the presented study may become a spur to creating prevention programme which addressed to future physicians and also to the people who are now active on professional level. The projects could prevent preserving unconstructive ways of coping with occupational stress and indirectly improve efficacy and satisfaction connected with medical care.*

Key Words: *Emotional Intelligence (EI), Stress, State and Trait, Medical students*

1. INTRODUCTION:

Medical education though cherished in the society is very challenging and highly stressful because large burden of information leaves a minimal opportunity to relax and reconstruct [1].[1] In an academic tenure of around five year in India in medical education, medical student's life is almost full of haphazard demanding assignments of curriculum which leads to different types of stress factors like the pressure of academics with ambition of good score, simultaneously uncertainty of post graduation and other difficulties. Medical undergraduates encounter with various in their academic tenure such as emotional, physical and family problems which may affect their erudition ability and academic performance [2]. For students who have been continuously achievers in primary and secondary school, getting a mediocre grade on an examination during their tenure often is dreadful [3]. Thus, for first time, many undergraduates find themselves in the underneath of their class [4]. During their academic tenure, sometimes they experience considerable deterioration of their mental quality of life too. Healthcare is a stressful work environment with many unbeatable challenges, a fast rate of knots. In the face of these pressures, professionals must carefully manage their reactions and interactions as inter and intra to achieve most favorable patient outcomes.

2. EMOTIONAL INTELLIGENCE:

Emotional intelligence was conceptualized as a basic intelligence where "the facts, meanings, truth, relationships etc., are those that exist in the field of emotion. Peter Salovey and John Mayer [5] had defined EI as "a set of abilities to perceive accurately, appraise and express emotion, the ability to understand emotion and emotional knowledge, and the ability to regulate emotion to promote emotional and intellectual growth". It helps a person to understand his/ her projected role and behavior in a concerned situation and helps in adjusting him/herself between the expected and existing behavior [6]. Inability to deal with strong emotions in healthy ways may lead adolescents to present their

sting and frustration through unproductive means like self-injury, or to attempt to insensitive themselves of emotions through isolation, alcohol or illicit drug use or other asocial behavior.

3. STRESS:

The word stress is occasionally used to explain a frightening situation or stimulus and at other times to describe a response to a situation. Stress may arise from any interaction between an individual and the environment when a person perceives the situation as alarming, challenging or possibly harmful. Stress is a common phenomenon of everyday life. Mostly everyone experience stress to some degree in one or another form throughout lives. However, some types of stress are pathological and lead to development of wide variety of symptoms and extended exposure to stress may affect one's health and carrying out activity. Selye [7] defined stress as a "non-specific response of the body to any demand. Aktekin et al [8] stated that the prevalence of psychological distress among 2nd year medical students ranged from 36.5% to 47.9%.

Studies have shown that medical sciences students live through a high incidence of personal distress during their undergraduate academic tenure [9]. High levels of stress may have a negative effect on expertise of the academic study program and courses [10]. Stress, health, and emotional problems may be increased during the period of undergraduate medical education. This can lead to mental distress and has a negative effect on attentive functioning and learning [11,12]. It seems that increase stress can decrease the coping ability or high emotional intelligence can help or can decrease stress. Hence, the study was planned to assess the Emotional Intelligence and Stress in this vulnerable population.

4. METHOD:

Sample: A total of one hundred undergraduate medical students i.e. M.B.B.S. 2nd year were constituted for the study sample. Out of these, 50 were female and 50 were male. The study group was homogeneous to education, marital status and religion.

Tools:

1. **Proforma for socio-demographic variable:** A special proforma designed for this study was used to gather socio-demographic details about the subjects.
2. **Emotional Intelligence Scale [13]**: The EIS prepared by Bhattacharya, Dutta and Mandal in 2004. It consists of 40 items out of which 20 items are positive and 20 items are negative. Items are to be answered in five point scale ranging from never true to always true with a possible range of scores from 40 to 200. The test–retest reliability is 0.94 (alpha coefficient 0.87) and the correlation (r =0.75) between Indian version of the scale.
3. **State-Trait Anxiety Inventory (STAI) [14]:** The State-Trait Anxiety Inventory (STAI) is a commonly used measure of trait and state anxiety developed by Spielberger in 1983. It also is often used in research as an indicator of stress. Form Y, its most popular version, has 20 items for assessing trait anxiety and 20 for state anxiety. All items are rated on a 4-point scale (e.g., from "Almost Never" to "Almost Always"). Internal consistency coefficients for the scale have ranged from .86 to .95; test-retest reliability coefficients have ranged from .65 to .75.

Procedure:

Protocol of the study was presented to and approved by research committee of the Pt. B. D. Sharma Post Graduate Institute of Medical Sciences for M.Phil (Clinical Psychology) dissertation. For the present study one hundred undergraduate medical students of 2nd year were contacted. They were explained regarding the objectives of the study and a written informed consent were taken from participants. Initially, a special proforma designed for socio-demographic variables was filled by the participants and further scales like Bhattacharya Emotional Intelligence Scale (EIS), State Trait Anxiety Inventory (STAI) were administered on them.

5. DATA ANALYSIS:

Data was analyzed using SPSS (version 16.1) statistical program. Student's *t* test was used to obtain the *p* value and level of significance. To find out the relationship between the two variables Pearson's Product Moment Correlation was calculated.

6. RESULT:

The analysis of the data and results are presented as:

Table 1 showing Socio-demographic characteristics of the participants.

VARIABLE		FREQUENCY (n=100)	PERCENTAGE (%)
Gender	Male	50	50.0
	Female	50	50.0
Age Distribution (In Years)	18-20	58	58.0
	21-23	42	42.0
Residence	Urban	69	69.0
	Rural	31	31.0
Religion	Hindu	99	99
	Sikh	01	1
Marital Status	Unmarried	100	100
	Married	00	00
Class	M.B.B.S. 2nd year	100	100

Table 1 shows the distribution of Sociodemographic variables of the participants. It is a homogeneous group of sex, marital status and education i.e. all participants are unmarried and enrolled in M.B.B.S. (2nd year). It is depicts in the table that most of participants from Hindu community (99%) and only one participant is belongs to Sikh community. Majority of the participants are in the age group of 18-20 years (58%) followed by in the age group of 21-23 years (42%).
Most of participants are belonged to urban background i.e. 69% and 31% of population from rural background.

Table 2 showing the difference between male and female participants on Emotional Intelligence and State Trait Anxiety Inventory (STAI) total scores

VARIABLE	N (100) Mean±SD		t- value	df	P
	Male	Female			
EI. total score	131.5±13.6	140.06±18.8	-2.587	98	.011*
STAI total	91.5±13.3	73.3±24.4	4.620	98	.000**

*p <0.05 level
**p <0.01 level
Table: 2 include the comparison of total scores obtained on the scales EI and STAI between male and female participants. An analysis of the scores was carried out to assess the difference between the male and female participants applying 't' test. It is observed that the mean and standard deviation of emotional intelligence total score for male participants are 131.5±13.6 respectively. Similarly, the mean and standard deviation of emotional intelligence total score for female participants are 140.06±18.8 respectively.
On STAI total score, the mean and standard deviation of male participants is 91.5±13.3 respectively. Female participants have mean and standard deviation of 73.3±24.4 respectively. From the table 2 it is also seen that the obtained t value are significant for both variables (emotional intelligence and stress) at $p < .01$ and $p < .05$ level of significance. Thus there is significant difference in total score of emotional intelligence and stress scale between both groups.

Table 3 showing correlation between Emotional Intelligence and STAI total score

		Emotional Intelligence total score	STAI total Score
Emotional Intelligence total score	Pearson Correlation	1	-.424**
	Sig. (2-tailed)		.000
	N	100	100
STAI total score	Pearson Correlation	-.424**	1
	Sig. (2-tailed)	.000	
	N	100	100

**p < 0.01 level
Table 3 shows the correlation between emotional intelligence and STAI total score. It is seen that emotional intelligence were negatively correlated with STAI on p<0.01. It indicates that when score of emotional intelligence would decrease than stress would increase or vice versa.

7. DISCUSSION:

The ability of individual to understand their own emotional states or emotional problems is considered as an important indicator of healthy mental functioning [5]. Research findings revealed that an inability to control negative emotions can lead individual to stress [5] and depression [15]. In different studies it appears that emotional intelligence is one key contributor to managing these competing pressures. Hence, the present study was taken up to assess these variables among this vulnerable population.

In our study, the results signify that the girls scored more on emotional intelligence scale in comparison of their counterpart. The obtained mean score in female was 140.06±18.8 in comparison to male which was found to be 131.5±13.6. It means that girls are more aware of their emotions and manage them intelligently. These above findings also supported by the study of Brackett [16]. They reported that women scored significantly higher in emotional intelligence than men. A study was conducted by Pandey and Tripathi [17] and their results revealed that females scored significantly higher than male and were more capable in managing and handling their own emotions as well as of others. Similarly, Austin et al [18,19] studied emotional intelligence and physician empathy among first year medical students and results showed that females scored significantly higher than males on EI. Thingujam and Ram [20] during the Indian adaptation of Emotional intelligence scale, found that female were significantly scored higher than male.

In present study, the prevalence of stress among the population was quite high by 61%. This finding was higher than the result in the study done by Aktekin et al [8]. They found a high prevalence of psychological distress in medical students, ranging from 21.6% to 56%. The prevalence of psychological distress among medical students of MBBS 1st year, 2nd year, 3rd year, 4th year and 5th year ranged from 17.6% to 50%, 36.5% to 47.9%, 29.8% to 40.5%, 28.3% to 48.7% and 21.9% to 62.7% respectively. Supe [21] confirmed the general impression that there is considerable amount of stress in medical students and incidence rate was found to be 73.5%. Stress was found to be more in Second and third MBBS students rather than First MBBS levels.

Treating stress and emotions as separate fields is somewhat absurd. Rather, they both are inter-dependent. In the present study, it was proposed to study the relationship between emotional intelligence and stress. The results of the stress and emotional intelligence clearly mean that there was negative and significant relationship. The results (table 3) clearly signified that there was a negative relationship between emotional intelligence and stress. It means that knowing what the participants feel and being able to handle those feelings, motivating themselves to accomplish the work, to be creative and sensing what others are feeling and handling relationships effectively; had a potentiality to decrease the experience of stress. The higher an individual is on emotional intelligence, lesser is the stress experienced by him/her. These above findings also supported by Pau and Croucher [22]. They studied the emotional intelligence and perceived stress in dental undergraduates. Correlation analysis showed a contrary relationship between emotional intelligence and perceived stress. They concluded that low EI scorers report more perceived stress. Darolia and Darolia confirmed that employees reporting a higher emotional intelligence level perceived a lower level of occupational stress and suffered less from negative health consequences. The study also confirmed that emotional intelligence plays a buffering role (not much strong) in preventing the workers from negative health outcomes, especially from depression symptoms [23].

8. CONCLUSION:

Emotional intelligence is a predictive of stress. It was seen that emotional intelligence was significantly negative correlated which means, if, a person high on emotional intelligence than he or she experience low stress. In another way, we can say that high or low emotional intelligence is directly associated with stress. There is a need for long term prospective research covering a range of institutions to obtain a full picture of stress in medical students.

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