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Original Research Article

A CROSS-SECTIONAL STUDY ON ASSOCIATION OF EMOTIONAL INTELLIGENCE & STRESS LEVELS IN MEDICAL STUDENTS OF TELANGANA STATE

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Abstract

Objective: The present study was done to assess if there is any association between Emotional intelligence (EI) & stress among medical students.

Materials & Methods: In this cross-sectional observational study, information was gathered through a self-administered, semi-structured questionnaire. It consisted of Kessler Psychological Distress Scale (K10 Questionnaire) & Schutte self-report EI test (SSEIT) to collect the information about stress levels and emotional intelligence respectively. Statistical test Chi-square was used and $p<0.05$ was considered statistically significant. SPSS Version 23 was used for data analysis.

Result: A total of 60 participants were assessed for Stress and EI. 11 (18.33%) students were found to be under severe stress. Majority (n=39, 65 %) of the students had high EI. Gender, type of stay (hostellers/day scholars) and stress levels were not found to be statistically significant with EI.

Conclusion: Non -significant association between stress levels and EI was found hence other factors leading to stress in medical students should be investigated and studied.

Keywords: Emotional intelligence, Medical students, Stress.

Introduction

A medical student has to overcome a lot of hurdles in his or her initial years of medical training. These hurdles are related to many factors like adjusting to a professional educational environment, dissecting cadavers, coping with vast syllabus, getting acquainted to newer medical terminologies, meeting expectations of parents, peer pressure, staying away from home, fear of failure etc. Managing academics in such a situation is just like walking on slippery roads where one needs to walk in spite of having the fear of falling. This builds tremendous stress in students which can affect their health. In a study conducted at Tamilnadu by Anuradha R et al the mean perceived stress score was 25.64 ± 5.44 among the medical students [(1)]. The estimated prevalence of emotional disturbance found in different studies on medical students was higher than that in the general population. In three British universities, the prevalence of stress was 31.2%, it was 41.9% in a Malaysian medical school whereas in a Thai medical school it was 61.4% [(2)].

From the last few decades, a new dimension of intelligence, Emotional Intelligence (EI) has been in focus. Researchers are trying to study a role that it can play in academic and professional success. The concept of Emotional intelligence was first introduced by Salovey and Mayer. They defined it as the capability of an individual to recognize emotions, to differentiate between them and to use this information to coordinate one's activities, reasoning, and thinking [(3)]. Later, Daniel Goleman further elaborated the concept of EI. He developed a mixed model of emotional intelligence which focuses on five key areas: self-awareness, social skills, self-regulation, motivation, and empathy [(4)].

EI is gaining increasing recognition in the field of medicine, not only for doctors but also for medicine pursuing students, as the medical students have to undergo a high demanding curriculum. The components of EI like intrapersonal and communication skills, empathy, organized thought process, self-motivation can help them to tackle challenging situations and relieve their anxiety and stress.

Many studies have been conducted on the stress in medical students but a very few have done on association of EI on stress. Some studies show significant while the other studies show tentative correlation between EI and stress so there is a need to conduct further study on the influence of EI on stress levels in medical students to fill the gap in research.

Materials & methods:

Type of study-cross sectional observational study
Study design-descriptive survey design
Setting of the study- after ethical clearance study was carried out among the first year B.H.M.S. students of MNR Homoeopathic medical college, Sangareddy, Telangana
Sample size: 60
Sampling technique: simple random sampling technique
Selection criteria-
Inclusion criteria- willingness to participate in the study

Exclusion criteria- known case of psychiatric disorder like depression, anxiety neurosis etc., history of any long-standing medical therapy in last 6 months

Data collection procedure:

It consists of three parts-

a) Socio demographic proforma - basic information of the student such as name, gender, age, address, hosteller/day scholar

b) Kessler Psychological Distress Scale (K10 Questionnaire) – was filled by participants, which has facilitated to understand their level of stress. The level of stress is decided by the score obtained.

* Score under 20- no stress
* Score 20-24 - mild stress
* Score 25-29- moderate stress
* Score 30 and over –severe stress

c) Schutte self-report emotional intelligence test (SSEIT)- containing 33 questions was filled by participants to determine their level of emotional intelligence. The items of the questionnaire were assessed by 5-point Likert scale, in which 1 being strongly disagreed to 5 being strongly agreed. For the purpose of analysis and comparison, the EI scores of the participants were categorized into

* Low (33-77)
*Moderate (78-121)
* High (122-165).

Confidentiality-Confidentiality of the data was maintained.

Plan of analysis- SPSS (Version 23, IBM Company, Armonk, NY) software was used for data analysis. $P< 0.05$ was considered statistically significant. Chi square test was performed to determine the relationship between EI & stress.

Ethical consideration- Ethical clearance from the institutional ethics committee was taken. Informed consent was taken from the participants.

Results:

Table 1: Baseline characteristics of study subjects

Characteristic	N (%)
Male	13(21.66%)
Female	47 (78.33%)
Hosteller	41(68.33%)
Day scholars	19 (31.66%)

Table 2: Association of Stress levels and EI scores

Stress level	EI N (%)		P Value
	High (n=39)	Moderate (n=21)	
No (n=24)	17	7	0.4129
Mild (n=15)	7	8	
Moderate (n=10)	7	3	
Severe (n=11)	8	3	

Table 3: Association of baseline characteristics with EI score

Characteristic	EI N (%)		P Value
	High (n=39)	Moderate (n=21)	
Male	6	7	0.1870
Female	33	14	
Hosteller	29	12	0.2452
Day scholars	10	9	

The mean age of students in the present study was 18.86 $\pm$ 0.95. There were 47 (78.33%) females and 13 (21.66%) males. Majority of the students were hostellers (n=41, 68.33%).

Students were classified based on their stress levels which are assessed by Kessler Psychological Distress Scale (K10 Questionnaire). The score under 20 is considered as no stress, score of 20-24 as mild stress, score of 25-29 as moderate stress & score 30 and over as severe stress. Majority (n=24, 40%) of the students had no stress,15 (25%) students had mild stress, 10 (16.66%) students had moderate stress while 11 (18.33%) students were found to be under severe stress.

Students were also classified based on the EI scores obtained in Schutte self-report emotional intelligence test (SSEIT). EI scores of 33-77 were considered as low, 78-121 as moderate and 122-165 as high. Majority (n=39, 65 %) of the students had high EI and moderate EI was seen in 35 % of students (n=21) and none of the students had low EI.

Table 2 and 3 show the association between stress and baseline characteristics of study subjects with EI. Stress (p= 0.4129), gender (p= 0.1870) and type of stay (p=0.2452) were identified as non- significant variables.

Discussion:

This study focused on the stress levels and the emotional intelligence of medical students. It also tried to find out if there is any association between the two.

Kessler Psychological Distress Scale (K10) was used to measure the stress among participants. It is a 5-point Likert scale which measured the frequency of appearance of different reactions to stress.

A lot of literature has reported the high prevalence of stress in medical students [(5), (6), (7), (8)]. This study reconfirmed the findings of previous studies. 58% (n=36) of the students were found to be under some degree of stress.62% of male participants and 60% of female participants were found to be under stress. 56% of Hostellers & 68% of day scholars were found to be under stress. The higher percentage of day scholars being under stress can be attributed to their energy and time spent in travelling.

Emotional intelligence was assessed by using Schutte self-report emotional intelligence test (SSEIT). Majority (n=39, 65 %) of the students were found to have high EI and none of the students had low EI.70% of female participants and 46% of male participants were found to have high EI. The higher percentage of women having high EI is believed to be due to their social or biological factors. In females, a larger area of the brain is involved with processing of emotions as compared to males [(9)]. Women's upbringing also plays a role. Socially women are allowed to express their emotions whereas males are supposed to suppress their emotions. The findings of present study coincide with the previous studies reporting higher EI in Females [(10), (11), (12)].

The present study did not show any association between stress levels and the emotional intelligence of students. This is contradictory to the findings of the study conducted by Sonal et al. in 2009 at central London university medical school which reported higher EI was associated with higher levels of stress experienced by the participants as they carried out the simulated laparoscopic task [(13)]. A study published in British Dental Journal in 2004, reported that the high EI students have better stress management skills than the students with low EI [(14)]. Negative correlation between EI and perceived stress was indicated in the study done by Birks et al at Hull York Medical School. But the authors also reported slightly reduced correlation when there is an acute stressor such as end of year exams, the effect of EI may be lessened [(15)].

The present study by reporting no association between EI and stress levels created an interest for further research. It would be interesting to investigate the other causative and associated factors to stress in medical students. The factors like design of syllabus, examination pattern, Intelligence quotient (IQ) in context of medical students should be studied in detail.

As with every research even our study faced certain limitations. Due to the time constraint, the sample size used was small. A follow up study can be conducted using a bigger sample size. Also, the performance-based tests may be a better measure of EI as compared to self-reporting scale which may help to reduce the bias.

Conclusion:

The findings of our study show that stress levels and emotional intelligence among the medical students are not directly associated. Hence, the other probable causative and associated factors to the stress like design of the curriculum, intelligence quotient (IQ), examination pattern should be identified and studied thoroughly.

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