Section: Psychiatry

Original Research Article

STUDY OF EMOTIONAL INTELLIGENCE IN MEDICAL POSTGRADUATES

Chanamala Niranjan Kumar[1], R Sagar[2], Ramya Rachamanti[3]

[1]Assistant Professor, Department of Psychiatry, S P V Govt Medical College, Machilipatnam, Andhra Pradesh, India
[2]Assistant Professor, Department of Psychiatry, Govt Medical College, Ongole, Andhra Pradesh, India
[3]Assistant Professor, Department of Pharmacology, Guntur Medical College, Guntur, Andhra Pradesh, India

Received : 08/12/2024
Received in revised form : 05/02/2025
Accepted : 21/02/2025

Keywords:
Emotional intelligence, medical postgraduates, Residents, Doctor-patient relationship, Clinical Practice.

Corresponding Author:
Dr. Ramya Rachamanti,
Email: ramz599@gmail.com

DOI: 10.47009/jamp.2025.7.1.188

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2025; 7 (1); 957-961

Abstract

Background: Emotional intelligence (EI) helps to build stronger relationships, achieve career, and succeed at work. Medical students during their post-graduation learn to interact with patients. A satisfactory doctor-patient relationship requires adequate Emotional Quotient. EI, one of the psycho-affective domains in medical education, is related to clinical performance and higher academic achievement. In this background, the present study assessed EI among medical postgraduates. The current study's objective is to assess emotional intelligence in medical postgraduates, identify the sociodemographic variables, and associate emotional intelligence with other variables. **Materials and Methods:** This is a cross-sectional study done among medical postgraduate students in Andhra Pradesh. Self-constructed semi-structured proforma for demographic data collection and emotional intelligence self-assessment checklists are used. The study was done on 200 Postgraduate medical students of 5 medical colleges -Maharajah's Institute of Medical Sciences, Vizianagaram and Andhra Medical College, Visakhapatnam, Govt. Medical College, Ongole, Guntur Medical College, Guntur, A.P. Govt. Medical College, Machilipatnam for six months. **Result:** Most residents were aged above 28 years, females. There is significant association between individual score components with age. Self awareness, motivation, and social competency scores are significantly more among married residents. The total emotional intelligence mean score is 18.46. Empathy was similar among male and female residents. **Conclusion:** We conclude that EI scores are associated with the semester, age of student and experience. More longitudinal studies can help to detect factors that could improve EI to design curricular-based activities.

INTRODUCTION

Emotional intelligence (EI) is a relatively new field of research, with a history of more than twenty years that quickly gained a high rank of popularity among practitioners and researchers.[1,2] Emotional intelligence is the ability to perceive emotion, integrate emotion to facilitate thought, understand and regulate emotions, to promote personal growth.[3] Reuven Bar-On, the originator of the term "emotional quotient", defined emotional intelligence in 1997 as being concerned with understanding oneself, relating to people, and coping with surroundings.[4] In the past, the gold standard of intelligence has been the Intelligence Quotient (I.Q.) Score. Previous research has proved that Emotional Cognitive Intelligence (CI) is fundamental for better adjustment.[5] The importance of EI is increasingly being recognized and assessed across various professions. Managing emotions in a social context are clearly important for success in a variety of interpersonal and as well as career-related domains.[6]

Emotional intelligence includes several key components: perceiving, understanding, utilizing, and managing emotions.[7] These skills are important in various professional fields, including management, business, medicine, law, and education. In healthcare, patient care is a team effort, not the work of a single subject. As the leader of team, doctors must manage both their own emotions and those of their colleagues to succeed in their roles. Doctors should shift from focusing on subject performance to prioritizing team outcomes.[8,9]

Studies showed a limited connection between emotional intelligence and patient satisfaction.[10] But the behavior of doctors toward their patients is a significant factor influencing satisfaction.[11] This is an area that can be targeted for improvement if

necessary. Doctors with higher emotional intelligence can better understand patients' needs and address any concerns.

Emotional intelligence training for medical residents can cause improved patient satisfaction scores.[12]

For medical students, EI was shown to correlate with academic success, clinical performance,[13] and the ability to manage stress.[14,15] Students with lower emotional intelligence have an incidence of health-damaging behaviors in response to stress and experience disrupted sleep patterns. Those with higher emotional intelligence tend to manage stress more effectively, depending on social support and understand that unhealthy coping mechanisms are counterproductive. EI also affects communication skills, job satisfaction, clinical and academic outcomes, stress management, burnout prevention2 and maintaining strong doctor-patient relationships.[16,17] Emotional intelligence is related to clinical performance and higher academic achievement and in clinical practice, it is related to more empathy in doctor-patient relationships, with improved clinical performance.[18]

Hence our study was focused on EI of medical students.

MATERIALS AND METHODS

Study Design: Cross-sectional study Population: Postgraduate medical students

Sample: All Postgraduate medical students were selected for the study as per inclusion criteria.

Sample Size: 200.

Sample Size Calculation

$n=Z^2p(1-p)/E^2$

n = required sample size

- Z = Z-score (based on confidence level, e.g., 1.96 for 95% confidence)
- p= estimated proportion -16%
- E = margin of error (desired precision, e.g., 0.05)

For a prevalence of 16% with a 95% confidence level and a 5% margin of error, we need a sample size of approximately 207.

But the data was incomplete for 7 residents. Hence for final analysis 200 residents were included.

Duration of the Study: Six months

Inclusion Criteria

1. Postgraduate medical students at-Maharajah's Institute of Medical Sciences, Vizianagaram and Andhra Medical College, Visakhapatnam, Govt. Medical College, Ongole, Guntur Medical College, Guntur, A.P. Govt. Medical College, Machilipatnam aged 22 to 40 years.
2. Male and female postgraduate medical students who agreed to give written informed consent.
3. 100 marital and 100 non-marital residents were included.

Exclusion Criteria

1. Postgraduate medical students with severe psychiatric illness, neurological disorders, and other severe medical conditions.
2. Students whose family member (parent, sibling, spouse or child) died in last six weeks.
3. Students who did not understand the questionnaire or deaf or not able to answer (i.e., unconscious) or on a wheelchair were excluded.

Materials used: Self-constructed semi-structured proforma was used to collect the basic demographic details and professional details of the sample: age, sex, marital status, college, year of study, and branch of study.

Emotional Quotient Self-Assessment Checklist.

Analysis: Data analysis was done using SPSS 17.0

Categorical parameters were assessed using the chi-square test and numerical parameters were assessed using T-test. Frequencies and percentages were used.

Ethical Considerations: Informed consent was taken from every participant and Institutional ethical committee approval was taken before starting the study.

RESULTS

Sociodemographic details: Most residents were aged above 28 (56%), females, and unmarried.

Table 1: Summary of Demographic Data.

Variable	Category	Count	Percentage
Sex	Female	120	60.0%
	Male	80	40.0%
Marital Status	Unmarried	100	50.0%
	Married	100	50.0%
Department	Medical Branch	128	64.0%
	Surgical Branch	72	36.0%

Mean scores of emotional intelligence: The mean self-awareness score is 19.4, and the mean self-confidence score is 18.33. The total emotional intelligence mean score is 18.46.

Table 2: Mean emotional intelligence score

Parameter	Minimum	Maximum	Mean	SD
Self-dimension				
Self-Awareness	14	24	19.40	2.713
Self Confidence	12	24	18.33	2.660
Self-Control	11	22	19.10	2.885
Social Dimension				
Empathy	12	24	18.78	2.581

ISSN (O): 2687-5365; ISSN (P): 2753-6556

Motivation	13	23	18.17	2.271
Social Competency	11	23	17.02	2.768
Total			18.46	8.653

Components of individual scores with age and gender: Self-awareness score. self-control score, empathy, and motivation scores were higher for students aged more than 28 years. (P below 0.0001) Self-confidence score was more for students aged below 28 years. Females score significantly more than males on self-awareness, self-control, motivation, and social competency. Males score significantly higher on self-confidence. Both genders have similar empathy scores. There is no statistically significant difference.

Table 3: Association between individual score components and gender

Parameter	Score	Female (120 residents)	Male (80 residents)	P value
Self-Awareness Score	≥20	103 (85.7%)	16 (20%)	0.0001
	<20	17 (14.3%)	64 (80%)	
Self Confidence Score	≥20	34 (28.6%)	51 (64%)	0.0001
	<20	86 (71.4%)	29 (36%)	
Self-Control Score	≥20	89 (74.3%)	38 (48%)	0.0001
	<20	31 (25.7%)	42 (52%)	
Empathy Score	≥20	69 (57.1%)	45 (56%)	0.86
	<20	51 (42.9%)	35 (44%)	
Motivation Score	≥20	79 (65.7%)	13 (16%)	0.0001
	<20	41 (34.3%)	67 (84%)	
Social Competency Score	≥20	58 (48.6%)	16 (20%)	0.0001
	<20	62 (51.4%)	64 (80%)	

Association of components of individual scores with Marital status and branch of specialization: Self-Awareness, Motivation, and Social Competency: Married resident's score is higher than unmarried residents. Self-Control and Empathy: Both groups show similar proportions. These results indicate that marital status is associated with differences in certain self-assessed qualities. Married residents appear to have higher self-awareness, motivation, and social competency, while unmarried residents had higher self-confidence. Self-Awareness, Self Confidence, Motivation, and Social Competency scores differ significantly between the two groups(branch of specialization). Medical professionals scored higher on self-awareness and motivation, and surgical professionals scored higher on self-confidence and, to a lesser extent, Social Competence.

Table 4: Association between individual score components and marital status

Parameter	Score	Unmarried (100 residents)	Married (100 residents)	P value
Self-Awareness Score	≥20	40 (40.0%)	77 (76.7%)	< 0.0001
	<20	60 (60.0%)	23 (23.3%)	
Self Confidence Score	≥20	53 (53.3%)	33 (33.3%)	0.0043
	<20	47 (46.7%)	67 (66.7%)	
Self-Control Score	≥20	60 (60.0%)	67 (66.7%)	0.303
	<20	40 (40.0%)	33 (33.3%)	
Empathy Score	≥20	57 (56.7%)	57 (56.7%)	1.000
	<20	43 (43.3%)	43 (43.3%)	
Motivation Score	≥20	33 (33.3%)	57 (56.7%)	0.0007
	<20	67 (66.7%)	43 (43.3%)	
Social Competency Score	≥20	27 (26.7%)	47 (46.7%)	0.0034
	<20	73 (73.3%)	53 (53.3%)	

ISSN (O): 2687-5365; ISSN (P): 2753-6556

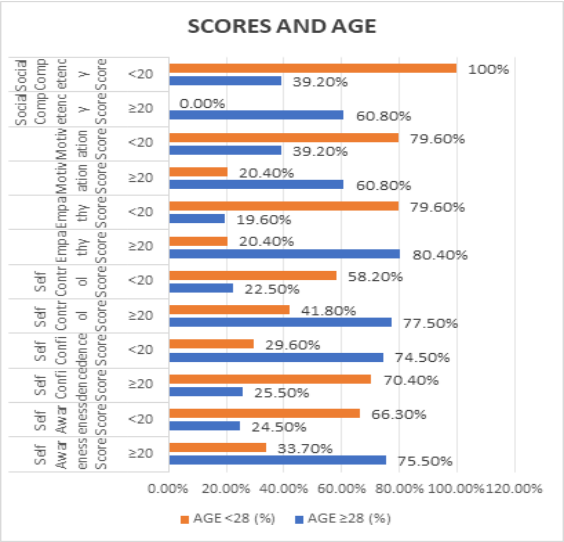

Figure 1: Scores and age distribution

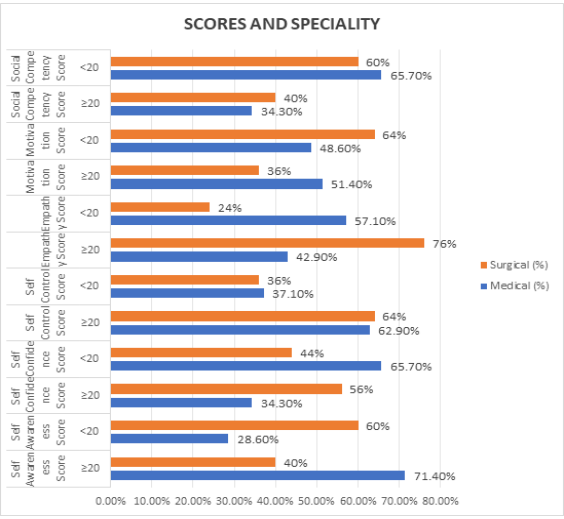

Figure 2: Individual score components and branch of specialization

DISCUSSION

In the present study, the total sample size is 200. 80 postgraduate medical residents are males, and 120 residents are females. 102 residents are below 28 years of age, and 98 residents are ≥28 years of age. 50% residents are married and 50% are unmarried postgraduate students. 128 residents belong to medical branches and 72 students belonged to surgical branches. 29 students are first-year postgraduate students, and 31 students are final-year postgraduate students in the current study.

Faye et al. conducted a study on postgraduate medical students and found that EI is low in most of the postgraduate students, that is, more than 70% had a score of below 20% in all the facets of emotional intelligence.[19]

Smrithi shetty et al. conducted a study on first-year medical students and found that more than 30% of the students scored below 20 in all the facets of emotional intelligence.[20]

Cognitive intelligence is responsible for only 20% of career successes, the remaining 80% are due to emotional intelligence. Such a low EI may affect patient management, personal growth of the medical professional, and ultimately health care system. Unfortunately, current medical training focuses less on soft skills because of which the resident medical doctor has to self-imbibe the required skills.

Females score significantly more than males on self-awareness, self-control, motivation, and social competency. Males score significantly higher on self-confidence. Empathy is almost equal in both genders. Faye et al. found in their study the mean scores of all the facets of EI were significantly higher among males with empathy almost equal in both. Male residents were found to be more self-confident (P=0.02).[19] Smrithi Shetty et al. found in their study the mean scores of all the facets of emotional intelligence were higher in females than males.[20] Self Confidence and empathy results are comparable with Faye et al,[19] and the remaining facets results are comparable with Smrithi et al. studies.[20]

Women are innately more receptive than men to emotional signals and more emotionally expressive than men, so that they understand ones and others' emotions in a better way and finally contribute to good emotional intelligence.

Self-awareness, self-control, empathy, motivation, and social competency (P = <0.01) are more in the older age group (≥ 28 years). Self-confidence (P = <0.01) is higher in the younger age group (<28yrs). Age is very closely associated with Emotional intelligence because life experiences may increase the EI. As residents mature, they understand others' feelings and non-verbal cues easily to a large extent. Many previous studies also concluded that emotional intelligence increases with age.[21,22]

Married students have more self-awareness than unmarried students. The findings in the present study is supported by Azimi et al,[23] and Faye et al,[19] Self-awareness is significantly high in medical branch students and empathy is significantly high in surgical branch students. Previous studies have found no relation between medical and surgical branch students.

Limitations

1. Small sample size.
2. All residents are clinical branch postgraduate students. So, results do not apply to all postgraduate medical students.

CONCLUSION

More than 36% of residents scored less than 20 in all the facets of EI (significant score being >20 for good EI). No relation was found between the specialty chosen and EI. Some of the factors correlated with good emotional intelligence include being female, elderly, and being a married subject.

ISSN (O): 2687-5365; ISSN (P): 2753-6556

REFERENCES

1. Petrides KV, Furnham A. The role of emotional intelligence in academic and workplace success. Curr Dir Psychol Sci. 2021;30(2):130-137. doi: 10.1177/0963721421993481.
2. Côté S, Miners CTH. Emotional intelligence in the workplace: A critical review and future directions. In: Cooper CL, Perrewé PL, editors. The Handbook of Organizational Behavior. Wiley; 2022. p. 65-87.
3. Mayer JD, Salovey P. What is emotional intelligence? In: Salovey P, Sluyter D, editors. Emotional development and emotional intelligence: implications for educators. New York: Basic Books; 1997. p. 3-31.
4. Bar-On R. Bar-On Emotional Quotient Inventory (EQ-I): Technical manual. Toronto: Multi-Health Systems; 1997.
5. Schutte NS, Malouff JM. Emotional intelligence and well-being: A meta-analytic review. Pers Individ Dif. 2020; 161:109999. doi: 10.1016/j.paid.2020.109999.
6. Bar-On R, Parker JDA. The Bar-On model of emotional-social intelligence (ESI). In: Cooper CL, Quick JK, editors. The Handbook of Stress and Health. Wiley; 2021. p. 447-466.
7. Mayer JD, Salovey P. Emotional intelligence and emotional development. In: Salovey P, Sluyter D, editors. Emotional development and emotional intelligence: Implications for educators. New York: Basic Books; 1997. p. 3-31.
8. Yip L, Wong ST. Shifting focus in medical education: From individual performance to team-based outcomes. Med Educ. 2021;55(2):193-200. doi: 10.1111/medu.14235.
9. Kern DE, Thomas PA, Hughes MT. The impact of teamwork on patient care: Moving beyond individual skills in medical training. JAMA. 2020;323(5):412-419. doi: 10.1001/jama.2019.21012.
10. Weng HC, Hung CM, Liu YT, Cheng YJ, Yen CY, Chang CC, et al. Associations between emotional intelligence and doctor burnout, job satisfaction, and patient satisfaction. Med Educ. 2011; 45:835-842. doi: 10.1111/j.1365-2923.2011.03985. x.
11. Fitzgerald L, Hunter AL, Telford E. Doctor-patient relationships and their role in patient satisfaction: The influence of interpersonal behavior. J Health Commun. 2021;26(3):213-221. doi: 10.1080/10810730.2021.1893458.
12. Krasner MS, Epstein RM, Beckman HB, Suchman AL, Chapman B, et al. Emotional intelligence training for medical residents: Impact on patient satisfaction and physician empathy. JAMA. 2020;324(10):1014-1023. doi: 10.1001/jama.2020.11535.
13. Cohen SI, Parker JDA, Bar-On R. The role of emotional intelligence in academic success of medical students: A longitudinal study. Med Educ. 2021;55(7):769-776. doi: 10.1111/medu.14504.
14. Dacre JC, Sullivan MP. Emotional intelligence and its impact on clinical skills in medical education. J Clin Educ. 2022;40(4):389-395. doi: 10.1097/JCE.0000000000000733.
15. Schroeder DM, Taylor MP, Williams SM. Emotional intelligence and clinical performance in medical students: A systematic review. Med Educ. 2020;54(9):846-853. doi: 10.1111/medu.14112.
16. Hojat M, Louis DZ, Markham FW, Wright SM, Gonnella JS. The relationship between emotional intelligence and empathy in medical students and physicians. Med Educ. 2021;55(9):996-1003. doi: 10.1111/medu.14599.
17. Yardley S, Teunissen PW, Baker R. Emotional intelligence and the development of empathy in healthcare professionals: A review of literature. Adv Health Sci Educ Theory Pract. 2021;26(3):551-572. doi: 10.1007/s10459-021-10090-0.
18. Sterrett EA. The manager's pocket guide to Emotional Intelligence. 2nd ed. Mumbai: Jaico Publishing House; 2004. p. 22-24.
19. Faye A, Kalra G, Swamy R, Shukla A, Subramanyam A, Kamath R. Study of emotional intelligence and empathy in medical postgraduates. Indian J Psychiatry. 2011;53(2):
20. Shetty SC, Venkatappa KG, Parakandy SG, Sparshadeep EM, Das SK. Assessment of emotional intelligence in first-year medical students: A questionnaire-based study. IOSR J Dent Med Sci. 2013; 3:23-26.
21. Shipley LN, Jackson JM, Segrest LS. The effects of emotional intelligence, age, work experience, and academic performance. Res High Educ J. 2010; 9:1-18.
22. Naeem N, Vleuten VC, Muijtjens AM, Violato C, Ali SM, Al-Faris EA, et al. Correlates of emotional intelligence: Results from a multi-institutional study among undergraduate medical students. Med Teach. 2014;36(1):S30-35.
23. Azimi S, Farid AAN, Fard MK, Khoei N. Emotional intelligence of dental students and patient satisfaction. Eur J Dent Educ. 2010;14(3):129-132.

ISSN (O): 2687-5365; ISSN (P): 2753-6556