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Emotional Intelligence and its Dimensions in Incoming Medical Students

Dr. Ashish R Jain [1], Dr. Anil J. Katara [1], Dr. Himanshu Gopat [2]

[1]Associate Professor, Department of Pediatrics, GMERS Medical College, Himmatnagar, Gujarat, India.
[2]Assistant Professor, Department of Pediatrics, GMERS Medical College, Himmatnagar, Gujarat, India.

*Corresponding Author: Dr. Ashish R Jain; *drj.ashish@yahoo.com*

Abstract

Background: Emotional intelligence plays a vital role in medical education by influencing academic performance, stress management, and professional behavior. ***Aim:*** To assess emotional intelligence and its dimensions among first-year MBBS students at entry to their medical education. ***Methods:*** A cross-sectional study was conducted among 210 first-year MBBS students using a validated emotional intelligence assessment tool. Gender- and age-wise comparisons of emotional intelligence dimensions were analyzed using appropriate statistical tests. ***Results:*** Female students and older age groups demonstrated significantly higher Sensitivity scores, while Maturity and Competency dimensions showed no significant differences across gender and age groups. ***Conclusion:*** Early assessment of emotional intelligence highlights the need for structured educational interventions to enhance emotional competencies in medical students.

Keywords: ***Emotional intelligence; Medical students; Sensitivity; Medical education.***

Introduction

Emotional intelligence (EI) is defined as the ability to perceive, understand, regulate, and effectively use emotions in oneself and others, enabling appropriate emotional responses, adaptive behavior, and effective interpersonal interactions [1]. In recent years, emotional intelligence has gained significant attention within medical education as an essential non-cognitive attribute that complements intellectual ability and technical knowledge [2]. The growing complexity of healthcare delivery, coupled with increasing emotional and psychological demands on healthcare professionals, has underscored the importance of EI in shaping competent, empathetic, and resilient physicians [1,3].

Medical education is widely recognized as a stressful and emotionally demanding process. Students entering medical school are exposed to intense academic workloads, competitive environments, and early professional socialization, which often result in heightened levels of stress, anxiety, and emotional exhaustion [4,5]. The first year of MBBS represents a critical transitional phase, as students move from a general academic setting into the structured and demanding environment of professional medical training [3]. During this period, students begin to develop professional identity, ethical values, and interpersonal skills that form the foundation of their future clinical practice [6].

Emotional intelligence has been shown to influence several key outcomes in medical students, including academic performance, stress management, psychological well-being, and interpersonal competence [2,7]. Students with higher EI levels demonstrate better coping strategies, improved emotional regulation, and greater resilience when faced with academic and personal challenges [5,8]. Moreover, specific dimensions of emotional intelligence-such as self-awareness, self-regulation, motivation, empathy, and social skills-are closely associated with effective communication, teamwork, and professional behavior, all of which are essential competencies for medical practitioners [4,9].

Emerging evidence also suggests that emotional intelligence plays a protective role against burnout and emotional distress among medical students [5,10]. Higher EI has been linked to lower perceived stress levels, greater life satisfaction, and enhanced emotional well-being, highlighting its relevance not only for academic success but also for long-term mental health and professional sustainability [6,10]. These findings emphasize the need to recognize emotional intelligence as a modifiable skill that can be nurtured through early assessment and targeted educational interventions.

Assessing emotional intelligence and its individual dimensions at the entry point of medical education provides valuable baseline data regarding students' emotional competencies before exposure to prolonged academic and clinical stressors [7,9]. Such assessment may help identify areas requiring support and guide the incorporation of emotional intelligence–focused training programs within the medical curriculum. Understanding EI profiles among first-year MBBS students can thus contribute to fostering emotionally competent future physicians, ultimately improving patient care, professional satisfaction, and healthcare outcomes [1,3].

Material and Methods

This study was conducted as a cross-sectional observational study among first-year MBBS students at a medical college during the initial phase of their medical education. The study population

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comprised students who had newly enrolled in the MBBS program and were at entry to their professional training. A total sample size of 210 first-year MBBS students was included in the study. All students present during the data collection period and willing to participate were enrolled using a census-based sampling approach.

Students who provided written informed consent were included in the study, while those who were absent on the day of data collection or declined participation were excluded. Ethical clearance for the study was obtained from the Institutional Ethics Committee prior to commencement, and the study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Confidentiality and anonymity of participants were strictly maintained throughout the study.

Data collection was carried out using a structured and validated emotional intelligence assessment questionnaire. The instrument assessed overall emotional intelligence as well as its individual dimensions, including self-awareness, self-regulation, motivation, empathy, and social skills. The questionnaire was administered in a classroom setting under standardized conditions, and participants were instructed to respond independently without discussion. Adequate time was provided to complete the questionnaire, and clarifications regarding instructions were given when required, without influencing responses.

Sociodemographic details such as age and gender were collected using a brief predesigned proforma. Completed questionnaires were checked for completeness before data entry. Data were coded and entered into a spreadsheet and subsequently analyzed using appropriate statistical software. Descriptive statistics were used to summarize the emotional intelligence scores and its dimensions, with results expressed as mean and standard deviation or frequency and percentage, as applicable. Inferential statistical tests were applied to assess associations between emotional intelligence scores and selected variables, with a p-value of less than 0.05 considered statistically significant.

Results

In the present study, emotional intelligence dimensions were compared between male and female students, across age groups, and within the older age group stratified by gender. Gender-wise comparison of EQ dimensions showed that female students demonstrated higher mean Sensitivity scores compared to males, with females scoring a mean of 92.68 ± 10.84 while males scored 88.12 ± 14.96, and this difference was statistically significant (p = 0.032) as shown in Table 1. The mean Maturity scores were slightly higher among males (108.34 ± 17.91) than females (105.26 ± 16.88), though this difference was not statistically significant (p = 0.284). Similarly, Competency scores were comparable between males (161.48 ± 21.35) and females (159.92 ± 18.27), with no statistically significant difference observed (p = 0.603).

Age-wise analysis of EQ dimensions revealed that students aged 19–21 years had marginally higher Sensitivity scores (91.84 ± 13.02) compared to those aged 17–18 years (89.06 ± 12.88), and this difference reached statistical significance (p = 0.041), as depicted in Table 2. Maturity scores were comparable between the younger age group (106.14 ± 18.09) and the older age group (104.78 ± 17.63), with no significant difference noted (p = 0.621). Competency scores were higher in the younger age group (162.27 ± 17.42) than in the 19-21 year group (156.88 ± 25.14); however, this difference did not achieve statistical significance (p = 0.067).

Further subgroup analysis among students aged 19–21 years showed gender-based variations in EQ dimensions as presented in Table 3. Female students exhibited higher Sensitivity scores (95.62 ± 9.14) compared to male students (88.96 ± 16.82), though the difference was not statistically significant (p = 0.094). Maturity scores were marginally higher among males (109.68 ± 16.73) than females (101.92 ± 17.86), with no statistically significant difference (p = 0.148). Competency scores were similar between males (154.72 ± 30.48) and females (158.63 ± 22.31), and the difference was statistically insignificant (p = 0.587).

Table 1: Mean values for EQ dimensions in males and females (n = 210)

EQ Dimension	Males (n = 98) Mean ± SD	Females (n = 112) Mean ± SD	P value
Sensitivity	88.12 ± 14.96	92.68 ± 10.84	0.032*
Maturity	108.34 ± 17.91	105.26 ± 16.88	0.284
Competency	161.48 ± 21.35	159.92 ± 18.27	0.603

*Significant

Table 2: Mean values for EQ dimensions according to age (n = 210)

EQ Dimension	17–18 years (n = 152) Mean ± SD	19–21 years (n = 58) Mean ± SD	P value
Sensitivity	89.06 ± 12.88	91.84 ± 13.02	0.041*
Maturity	106.14 ± 18.09	104.78 ± 17.63	0.621
Competency	162.27 ± 17.42	156.88 ± 25.14	0.067

*Significant

Table 3: Mean values for EQ dimensions in males and females aged 19–21 years

EQ Dimension	Males (n = 27) Mean ± SD	Females (n = 31) Mean ± SD	P value
Sensitivity	88.96 ± 16.82	95.62 ± 9.14	0.094
Maturity	109.68 ± 16.73	101.92 ± 17.86	0.148
Competency	154.72 ± 30.48	158.63 ± 22.31	0.587

Discussion

The present study evaluated emotional intelligence and its dimensions among first-year MBBS students at the entry point of medical education, with particular emphasis on gender- and age-related differences. The results demonstrated that female students exhibited significantly higher Sensitivity scores compared to male students, while no statistically significant gender differences were observed for the Maturity and Competency dimensions. This finding is consistent with previous research indicating that female medical students tend to demonstrate greater emotional awareness, empathy, and sensitivity in early stages of professional training [11]. Higher sensitivity among females may reflect enhanced perception and

understanding of emotions, which are essential attributes for interpersonal communication and patient-centered care [12].

Age-wise comparison revealed that students aged 19–21 years showed significantly higher Sensitivity scores compared to those aged 17–18 years. This suggests that emotional awareness and responsiveness may improve with increasing age and broader life experiences prior to entering medical school. Similar observations have been reported in studies indicating that affective components of emotional intelligence tend to develop during late adolescence and early adulthood [13]. However, the lack of significant differences in Maturity and Competency across age groups in the present study suggests that emotional regulation and applied emotional skills may not evolve automatically with age and may require structured learning experiences and professional exposure [14].

Subgroup analysis among students aged 19–21 years revealed that females continued to demonstrate higher mean Sensitivity scores compared to males, although the difference did not reach statistical significance. This trend supports the notion that gender-based differences in emotional perception persist but may become less pronounced with increasing age and educational exposure. Maturity scores were marginally higher among males in this subgroup, though the difference was statistically insignificant, indicating comparable emotional regulation abilities across genders. Competency scores were also similar between male and female students, suggesting equivalent ability to apply emotional skills in social and academic contexts. These findings align with existing literature indicating that while baseline emotional traits may differ by gender, functional emotional competencies tend to converge during professional training [15].

The absence of significant differences in Maturity and Competency dimensions across gender and age groups highlights the importance of early educational interventions. Emotional regulation, motivation, and social competence are critical professional skills that may not develop adequately without deliberate curricular emphasis. Early assessment of emotional intelligence, as conducted in the present study, provides valuable baseline information and supports the integration of emotional intelligence–enhancing strategies within medical curricula. Such interventions have the potential to improve stress management, resilience, professional behavior, and overall well-being among medical students [11,14].

Conclusion

The present study demonstrates that Sensitivity, a key dimension of emotional intelligence, varies significantly according to gender and age among first-year MBBS students, with females and older students exhibiting higher scores. In contrast, Maturity and Competency dimensions were comparable across groups, suggesting that these emotional skills may require structured educational support rather than being influenced solely by demographic factors. Early assessment and incorporation of emotional intelligence training into medical education may contribute to the development of emotionally competent, resilient, and empathetic future physicians.

List of abbreviations

EI: Emotional intelligence
EQ: Emotional Quotient

Declarations

Ethics approval and consent to participate

The study was conducted after obtaining approval from the Institutional Ethics Committee, and informed consent was obtained from all participants

Data Availability

Data are available from the corresponding author upon request.

Conflict of interest

The authors declare no conflict of interest.

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Authors' contributions

Conceptualization: ARJ
Data Collection: AKJ
Analysis & Interpretation: HG
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References

[1] Salovey P, Mayer JD. Emotional intelligence. *Imagin Cogn Pers*. 1990;9(3):185–211.
[2] Goleman D. *Emotional intelligence: why it can matter more than IQ*. New York: Bantam Books; 1995.
[3] Chew BH, Zain AM, Hassan F. Emotional intelligence and academic performance in first and final year medical students: a cross-sectional study. *BMC Med Educ*. 2013; 13:44.
[4] Arora S, Ashrafian H, Davis R, Athanasiou T, Darzi A, Sevdalis N. Emotional intelligence in medicine: a systematic review through the context of the ACGME competencies. *Med Educ*. 2010;44(8):749–764.
[5] Austin EJ, Evans P, Goldwater R, Potter V. A preliminary study of emotional intelligence, empathy and exam performance in first year medical students. *Pers Individ Dif*. 2005;39(8):1395–1405.
[6] Tyssen R, Vaglum P, Grønvold NT, Ekeberg Ø. Factors in medical school that predict postgraduate mental health problems in need of treatment: a nationwide and longitudinal study. *Med Educ*. 2001;35(2):110–120.
[7] Singh D, Aulakh R, Singh T. Emotional intelligence and perceived stress among undergraduate medical students. *Indian J Psychol Med*. 2020;42(4):345–350.
[8] Gupta R, Singh N, Kumar R. Emotional intelligence and academic achievement of medical students. *J Educ Health Promot*. 2017;6:50.
[9] Kulkarni P, Janakiram C, Kumar DN. Emotional intelligence and perceived stress among medical students in India. *Indian J Public Health*. 2018;62(4):273–277.
[10] Shankar PR, Dubey AK, Mishra P, Upadhyay DK. Emotional intelligence and stress coping styles among undergraduate medical students. *Educ Health (Abingdon)*. 2021;34(2):97–103.

[11] Joseph DL, Newman DA. Emotional intelligence: an integrative meta-analysis and cascading model. *J Appl Psychol*. 2010;95(1):54-78.

[12] Brackett MA, Rivers SE, Salovey P. Emotional intelligence: implications for personal, social, academic, and workplace success. *Soc Personal Psychol Compass*. 2011;5(1):88-103.

[13] Mayer JD, Roberts RD, Barsade SG. Human abilities: emotional intelligence. *Annu Rev Psychol*. 2008; 59:507–536.

[14] Cherry MG, Fletcher I, O'Sullivan H, Shaw N. Emotional intelligence in medical education: a critical review. *Med Educ*. 2014;48(5):468–478.

[15] Humphrey N, Curran A, Morris E, Farrell P, Woods K. Emotional intelligence and education: a critical review. *Educ Psychol Rev*. 2007;19(2):235–254.