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Assessing Interpersonal and Intrapersonal Emotional Insights in Undergraduate Medical Students

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ARTICLE INFO

ABSTRACT

Emotional intelligence (EI) plays a vital role in professional competence and psychological well-being, especially in healthcare. It significantly impacts how effective practitioners are and the outcomes for patients. In medical education, nurturing emotional intelligence is crucial because clinical practice often involves intense emotional experiences. **Objective:** To evaluate emotional understanding at both the interpersonal and intrapersonal levels among medical students. **Methods:** A Descriptive cross-sectional study was conducted at Sialkot Medical College, from August 23, 2023, and culminating on November 23, 2023 of three months' duration after taking IRB from Sialkot Medical College, Sialkot IRB no. (MRC/IRB/23019). The selection of participants was conducted utilizing a convenience sampling approach. The study included students across all academic years of the MBBS program, with the exclusion criteria being individuals diagnosed with anxiety or depression. Data were collected via a Google Forms questionnaire and analyzed using SPSS Version 23.0. **Results:** The study encompassed a total of 298 medical students, with an average age of 20.4 ± 1.77 years. The demographic breakdown revealed 143 (48%) male participants and 155 (52%) female participants. The findings underscored a prevalent understanding among students regarding their emotions and the significance of emotional awareness in their daily lives. Moreover, the research identified obstacles related to emotional expression and heightened sensitivity to external stimuli. **Conclusions:** This study concluded that brings substantial diversities in emotional and social-emotional acumen within the medical student cohort, underscoring the necessity for augmented emotional intelligence training in medical curricula to fortify self-awareness and interpersonal efficacy.

INTRODUCTION

Emotional intelligence (EI) plays a vital role in professional competence and psychological well-being, especially in healthcare. It significantly impacts how effective practitioners are and the outcomes for patients [1]. In medical education, nurturing emotional intelligence is crucial because clinical practice often involves intense emotional experiences. Medical students who excel in understanding and managing both their own emotions (self-awareness and emotional regulation) and those of others (social sensitivity, empathy, and communication skills) are better prepared to navigate patient interactions and the high-pressure demands of a medical career [2]. Training medical professionals involves not only the acquisition of theoretical knowledge and practical skills but also the cultivation of a professional attitude marked by empathy, resilience, and emotional stability [3]. These qualities are crucial for good patient care and are strongly tied to emotional intelligence. Studies have found that medical students with higher emotional intelligence have better communication skills, more satisfied patients, and

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improved personal well-being. Additionally, emotionally intelligent medical students are more likely to become skilled doctors who can manage their own emotions and understand the emotions of their patients and coworkers [4]. Emotional intelligence encompasses several key areas, including the ability to identify and manage one's own emotions (intrapersonal skills), and the ability to recognize, understand, and influence the emotions of others (interpersonal skills). These competencies are vital in medical settings where the ability to make rapid, yet compassionate decisions can significantly affect patient outcomes. In addition, the interpersonal component of emotional intelligence is crucial for teamwork and communication within multi-disciplinary healthcare teams, a common scenario in modern medical practice [5]. While numerous studies have explored the implications of emotional intelligence in healthcare, the focus has predominantly been on practicing healthcare professionals. Medical students, especially during their formative years, have received less attention. Studies that do focus on this group often view emotional intelligence as a fixed trait, overlooking its development throughout medical training [6, 7]. Additionally, existing research often relies on broad assessments of emotional intelligence, which may fail to capture the unique challenges and situations encountered by medical students [8]. This leads to a significant gap in the literature: the need for targeted research exploring both interpersonal and intrapersonal aspects of emotional intelligence within medical student populations. The reason for focusing on medical students instead of practicing professionals is because medical school is a key time for developing their professional identities. During this period, students shape the personal and professional qualities that will define their careers. By understanding and improving emotional intelligence in these early years, educators can greatly impact the quality of future medical practice. This study aims to fill a gap in research and serves an educational purpose, aiming to help create a more empathetic, aware, and emotionally skilled medical workforce.

This study aimed to fill these gaps by looking at how medical students understand their own emotions and those of others. The goal is to use the findings to improve medical training programs to better address the emotional and social needs of students.

METHODS

A descriptive cross-sectional study was conducted at a medical college, spanning three months from August 23, 2023, to November 23, 2023 after taking IRB from Sialkot Medical College, Sialkot IRB no. (MRC/IRB/23019). The expected prevalence of emotional intelligence attributes (20%), the total population of the medical college (500 students), desired confidence level (95%, Z-1.96), and margin of error (5%, E-0.05). Applying the finite population correction (FPC) formula resulted in a required sample size of 183. To ensure adequate power (80%, power=0.80) and account for possible non-response or incomplete data, the sample size was increased to 298 participants. A convenience sampling method was utilized, where participants were selected based on availability and willingness to participate. While this method allowed efficient data collection within the study timeframe, it may introduce selection bias. All students enrolled from the first to the final year of the MBBS program were eligible, excluded were the diagnosed with anxiety or depression, as these conditions might affect their emotional intelligence scores. Students unwilling to participate were also excluded. Data were collected through a validated questionnaire designed to evaluate social skills, empathy, and motivation. The questionnaire was sourced from an open-access study conducted in Chennai, India, ensuring relevance and adaptability to our study population [9]. It was disseminated via Google Forms, facilitating broad access and ease of use for participants and included items structured on a Likert scale. The study protocol received approval from the Institutional Review Board of the medical college. Ethical standards were strictly followed, with informed consent obtained electronically before participation. The consent form clarified the study's purpose, the voluntary nature of participation, the confidentiality of responses, and the participants' right to withdraw at any time without consequences. Responses were analyzed using statistical software (SPSS version 23.0). Descriptive statistics summarized the demographic data and emotional intelligence scores.

RESULTS

In this study, 298 students were enrolled. The mean age of students was 20.4 ± 1.77. Among the 298 students participated in the research, 143 (48%) were male and 155 (52%) were female. The majority of respondents (48.7%) were in their first study year, followed by a smaller proportion in subsequent years: 9.1% in the second year, 18.1% in the third year, 10.4% in the fourth year, and 13.8% in the fifth year in table 1.

Table 1: Sociodemographic Characteristics of Study Respondents n=298

Questions		Frequency (%)
Age in years	18 to 22	253 (84.9)
	22 to 26	45 (15.1)
Gender	Male	143 (47.8)
	Female	155 (52.2)
Year of MBBS study	1st year	145 (48.5)
	2nd year	27 (9.0)
	3rd year	53 (18.1)
	4th year	32 (10.7)
	Final year	41 (13.7)
	Total	298 (100)

Emotional Awareness reveals a spectrum of responses indicating varying levels of emotional self-awareness among respondents. Key findings include that a majority (57.7%) often feel clear about their emotions, while a significant portion (51.7%) always acknowledge the importance of emotions in their lives. Additionally, a notable percentage (43.3%) sometimes experience their moods impacting others, highlighting a moderate awareness of interpersonal emotional dynamics. Challenges in emotional expression are evident, with a considerable portion (34.6%) rarely finding it easy to articulate their feelings. Moreover, a majority (52.7%) always feel their moods are easily influenced by external events, underscoring a heightened sensitivity to environmental stimuli. While a minority (22.1%) always sense impending anger, a substantial portion (49.0%) sometimes share their true feelings with others, indicating a varied inclination towards emotional transparency. Verbalizing emotions remains a struggle for many (36.9%), and yet, a significant majority (47.3%) always stay aware of their emotional state even when upset, demonstrating a strong self-awareness during distress. Lastly, a moderate percentage (37.6%) sometimes possess the ability to detach from thoughts and feelings for introspection, reflecting a nuanced capacity for self-reflection among respondents (Table 2).

Table 2: Response of the Study Participants Related to Emotional Awareness Domain (Intrapersonal Domain)

Emotional Awareness n (%)	Never	Rarely	Some-times	Often	Always	Total
My feelings are clear to me at any given moment	0 (0.0%)	27 (9.1%)	54 (18.1%)	172 (57.7%)	45 (15.1%)	298 (100.0%)
Emotions play an important part in my life	0 (0.0%)	3 (1.0%)	46 (15.4%)	95 (31.9%)	154 (51.7%)	298 (100.0%)
My moods impact the people around me	29 (9.7%)	62 (20.8%)	129 (43.3%)	61 (20.5%)	17 (5.7%)	298 (100.0%)
I find it easy to put words to my feelings	7 (2.3%)	103 (34.6%)	70 (23.5%)	80 (26.8%)	38 (12.8%)	298 (100.0%)
My moods are easily affected by external events	0 (0.0%)	0 (0.0%)	31 (10.4%)	110 (36.9%)	157 (52.7%)	298 (100.0%)
I can easily sense when I am going to be angry	35 (11.7%)	64 (21.5%)	76 (25.5%)	57 (19.1%)	66 (22.1%)	298 (100.0%)
I readily tell others my true feelings	21 (7.0%)	65 (21.8%)	146 (49.0%)	57 (19.1%)	9 (3.0%)	298 (100.0%)
I find it easy to describe my feelings	61 (20.5%)	110 (36.9%)	103 (34.6%)	21 (7.0%)	3 (1.0%)	298 (100.0%)
Even when I'm upset, I'm aware of what is happening to me	0 (0.0%)	28 (9.4%)	72 (24.2%)	57 (19.1%)	141 (47.3%)	298 (100.0%)
I can easily sense when I am going to be angry	32 (10.7%)	50 (16.8%)	112 (37.6%)	63 (21.1%)	41 (13.8%)	298 (100.0%)

Social Emotional Awareness presents data on respondents' perceptions of their ability to understand and navigate social interactions and emotions. It reveals varying levels of awareness and sensitivity to others' emotions and behaviors across different scenarios. A majority (53.0%) always consider the impact of their decisions on other people, indicating a high level of social awareness and empathy. Similarly, a significant percentage (54.0%) always sense when people around them are becoming annoyed, demonstrating a keen sensitivity to emotional cues. Furthermore, a substantial proportion (55.0%) always sense when a person's mood changes, indicating a strong ability to perceive and respond to shifts in emotional states. Additionally, a majority (48.0%) always feel able to be supportive when delivering bad news, highlighting a capacity for empathy and compassion. Moreover, a majority (53.7%) generally understand the way other people feel, suggesting a high level of emotional intelligence in interpersonal interactions. However, notable variations exist, such as a significant percentage (39.6%) reporting that their friends can tell them intimate things about themselves, indicating varying degrees of trust and openness in relationships. A majority (59.1%) always indicated that it genuinely bothers them to see other people suffer, indicating a high level of empathy and emotional sensitivity towards the well-being of others. A significant percentage (47.0%) always reported knowing when to speak and when to be silent, demonstrating a strong sense of social awareness and appropriate communication skills in various social situations (Table 3).

Table 3: Response of the Study Participants Related to Social Emotional Awareness Domain (Interpersonal Domain)

Social Emotional Awareness n (%)	Never	Rarely	Some-times	Often	Always	Total
I consider the impact of my decisions on the other people	0 (0.0%)	0 (0.0%)	20 (6.7%)	120 (40.3%)	158 (53.0%)	298 (100.0%)
I can easily tell if the people around me are becoming annoyed	0 (0.0%)	0 (0.0%)	14 (4.7%)	123 (41.3)	161 (54.0%)	298 (100.0%)
I sense it when a person's mood changes	0 (0.0%)	8 (2.7%)	46 (15.4)	80 (26.8%)	164 (55.0%)	298 (100.0%)
I am able to be supportive when giving bad news to others	0 (0.0%)	4 (1.3%)	42 (14.1%)	109 (36.6%)	143 (48.0%)	298 (100.0%)
I am generally able to understand the way other people feel	0 (0.0%)	0 (0.0%)	26 (8.7%)	112 (37.6%)	160 (53.7%)	298 (100.0%)
My friends can tell me intimate things about themselves	42 (14.1%)	129 (43.3%)	118 (39.6%)	9 (3.0%)	0 (0.0%)	298 (100.0%)
It genuinely bothers me to see other people suffer	0 (0.0%)	0 (0.0%)	25 (8.4%)	97 (32.6%)	176 (59.1%)	298 (100.0%)
I usually know when to speak and when to be silent	0 (0.0%)	28 (9.4%)	84 (28.2%)	140 (47.0%)	46 (15.4%)	298 (100.0%)

Relationship Management provides insights into respondents' perceptions of their abilities to manage and foster positive relationships. Findings reveal varying levels of comfort, communication, and support within interpersonal connections. A majority (53.7%) always consider their relationships as safe places, indicating a strong foundation of trust and security in their

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interactions. Additionally, while a significant portion (35.6%) sometimes find it easy to share deep feelings, there are also instances where respondents (14.8%) rarely or never do, suggesting varying levels of emotional vulnerability and openness. Moreover, a notable percentage (47.3%) often demonstrate proficiency in motivating others, showcasing leadership and interpersonal influence skills. Furthermore, respondents generally find it relatively easy to make friends (30.2% often, 35.9% sometimes), underscoring their sociability and ability to initiate and maintain connections. Additionally, a majority (56.0%) enjoy helping others, reflecting altruistic tendencies and a desire for social contribution. Furthermore, respondents (38.3% often, 47.7% sometimes) demonstrate a strong ability to offer support by engaging in conversations with individuals when they are very upset, indicating empathetic communication and active listening skills in nurturing relationships. Overall, the table highlights a diverse range of relationship management skills among respondents, encompassing trust-building, emotional expression, leadership, sociability, altruism, and supportiveness in fostering positive interpersonal connections (Table 4).

Table 4: Response of the study participants related to Relationship Management domain (Interpersonal Domain)

Relationship Management n (%)	Never	Rarely	Some-times	Often	Always	Total
My relationships are safe places for me	0 (0.0)	0 (0.0%)	34 (11.4%)	104 (34.9%)	160 (53.7%)	298 (100.0%)
I find it easy to share my deep feelings with others	7 (2.3)	44 (14.8)	106 (35.6%)	97 (32.6%)	44 (14.8%)	298 (100.0%)
I am good at motivating others	0 (0.0)	7 (2.3%)	33 (11.1%)	117 (39.3%)	141 (47.3%)	298 (100.0%)
It is easy for me to make friends	4 (1.3)	28 (9.4%)	69 (23.2%)	107 (35.9%)	90 (30.2%)	298 (100.0%)
I am fairly cheerful person	4 (1.3)	36 (12.1%)	93 (31.2%)	103 (34.6%)	62 (20.8%)	298 (100.0%)
I like helping people	0 (0.0)	0 (0.0%)	26 (8.7%)	105 (35.2%)	167 (56.0%)	298 (100.0%)
I am able to talk to someone when they are very upset	0 (0.0)	4 (1.3%)	38 (12.8%)	114 (38.3%)	142 (47.7%)	298 (100.0%)

DISCUSSION

This study aimed to assess the emotional and social emotional awareness among medical students at a medical college, enrolling a diverse cohort of 298. The majority of participants were first-year students, suggesting a youthful demographic which could influence the emotional maturity and awareness observed in the results. The findings from the Emotional Awareness domain reflect a broad spectrum of self-awareness and emotional expression among the participants. A significant majority often felt clear about their emotions (57.7%), and a majority also acknowledged the importance of emotions in their lives (51.7%). These results are encouraging as they indicate a high level of intrinsic emotional understanding,

which is critical in the medical field for both self-management and patient care [9, 10]. However, the data also highlighted areas for improvement. A considerable number of students (34.6%) rarely found it easy to articulate their feelings, and a similar percentage (36.9%) struggled to describe their emotions. This difficulty in verbalizing emotions could hinder effective communication with peers and patients, potentially impacting clinical outcomes and personal well-being [10]. Interestingly, 52.7% of the students felt their moods were easily influenced by external events, which might suggest a vulnerability to environmental stressors—a common challenge in medical settings. This sensitivity, while enhancing empathy and responsiveness, might also necessitate targeted interventions to strengthen emotional resilience [11]. The Social Emotional Awareness responses illustrate a generally high level of interpersonal sensitivity and empathy. Notably, a majority of students consistently considered the impact of their decisions on others (53.0%) and were adept at recognizing when others were annoyed (54.0%) or when their moods changed (55.0%). These competencies are invaluable in medical practice, where understanding and reacting appropriately to patient and colleague emotions can significantly enhance collaborative efforts and patient care [12]. Despite these strengths, the data revealed areas of potential concern. Although many students felt capable of being supportive when delivering bad news (48.0%), a significant portion (39.6%) indicated that their friends rarely tell them intimate things, suggesting possible barriers to deeper emotional connections or trust [13]. Responses related to relationship management skills further underscored the students' capacity for interpersonal interaction and support. A majority viewed their relationships as safe spaces (53.7%), which is crucial for emotional support during the demanding medical training. The ability to engage effectively and supportively in emotionally charged situations was evident, with (47.7%) able to converse effectively with someone very upset. However, challenges in sharing deep feelings (14.8% rarely or never) point to a reticence that could impede deeper interpersonal connections and personal growth. Developing these areas could enhance students' overall emotional intelligence, benefiting their professional and personal lives [14-16]. An interventional study conducted in US for over two years revealed that, 70 medical students participated in an EI-Resilience elective focusing on skills such as positive thinking and gratitude, taught over six sessions. Post-elective evaluations using the EQ-i 2.0 showed a significant improvement in emotional intelligence scores from an average of 100.05 to 108.14. The majority of students (over 93%) found the elective beneficial and recommended its continuation for future students [17]. A newly introduced EI-Resilience curriculum significantly benefits preclinical medical students by

instilling emotional intelligence and resilience strategies through a well-defined program. Introducing this type of educational intervention during the preclinical phase is both opportune and effective [18, 19]. These findings underline the importance of integrating emotional intelligence training into medical curricula. Programs focusing on enhancing emotional articulation skills, resilience to external stressors, and deepening interpersonal trust could be beneficial [20]. Future research should explore longitudinal studies to track emotional intelligence development throughout medical training and its impact on clinical efficacy and satisfaction. Overall, this study contributes valuable insights into the emotional and social emotional landscapes of medical students, offering a foundation for enhancing educational strategies to support the development of well-rounded, emotionally intelligent medical professionals.

CONCLUSIONS

This study concluded that a broad range of emotional and social-emotional awareness among medical students revealing both strengths in self-awareness, empathy and challenges in emotional expression and resilience. The findings emphasize the need for targeted emotional intelligence training in medical education to enhance interpersonal skills and emotional articulation.

Authors Contribution

Conceptualization: SZ
Methodology: AM, AS, MA
Formal analysis: NB, FU
Writing-review and editing: SZ

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

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