Original Research Article

Perception of medical students about their educational environment and anxiety evaluation among them: a cross-sectional descriptive study

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ABSTRACT

Background: Perceptions of the educational environment and satisfaction with one's major significantly influence the preparedness of medical students for their professional careers. Anxiety, often prevalent among students, further impacts academic performance and mental well-being. This study aimed to assess medical students' perceptions of their educational environment and to evaluate anxiety levels among them.
Methods: A cross-sectional descriptive study was conducted from January 2025 to June 2025 across various universities. The study included undergraduate medical students from the first to final year who had completed at least five months of study. Data were collected using the Dundee ready education environment measure (DREEM) scale to assess educational environment and the generalized anxiety disorder (GAD) scale for anxiety evaluation.
Results: Out of 200 participants, 61.5% were female and 38.5% were male. The majority were from clinical years (71.5%). Most students reported positive perceptions of their educational environment. However, a significant portion exhibited mild to moderate levels of anxiety. The average perception and anxiety scores varied across academic years. A significant association was found between perception and the field of study, while no association was found between anxiety and variables like age or gender.
Conclusions: Most students perceived their educational system positively, especially in areas related to teachers and academic atmosphere. However, a considerable number of students experienced anxiety, highlighting the need for enhanced support systems and coping skills among medical students.

Keywords: Medical students, Educational environment, Anxiety

INTRODUCTION

Medical students' perception of their educational environment and satisfaction with their chosen field is a critical determinant of their academic engagement, psychological well-being, and eventual readiness for professional practice.[1] Medicine, being a highly demanding and respected profession, necessitates that future doctors be trained through comprehensive and well-structured educational systems.[2] Effective teaching strategies, a positive academic climate, and constructive feedback mechanisms all contribute significantly to shaping competent medical professionals.[3]

This study aimed to evaluate medical students' perceptions of their educational environment and their

level of satisfaction with their chosen profession in the medical field.[4] In Pakistan, the results from previous studies show that students generally express moderate satisfaction. For instance, a study across medical colleges in Peshawar and Lahore revealed average DREEM scores of 105/200 and 120/200, respectively.[5] In contrast, higher scores-typically above 130-have been reported in developed countries such as the United Kingdom, Germany, Canada, and the United States.[6] These differences highlight possible gaps in educational quality and student support across countries.[7]

The learning environment greatly influences students' academic success and personal development. Understanding students' views not only provides insights into existing institutional strengths and weaknesses but also helps in implementing changes to foster a more student-centered atmosphere.[8] Numerous studies globally have utilized tools like the DREEM to analyze students' academic experiences and their implications.[9]

Alongside educational concerns, psychological well-being-particularly anxiety-has emerged as a pressing issue among medical students. Anxiety is characterized by excessive worry, emotional tension, and physical symptoms such as restlessness and elevated blood pressure.[10] Unlike fear, which arises from immediate threats, anxiety involves apprehension about future challenges.[11] Medical students are particularly vulnerable due to academic pressure and clinical stressors, with many studies reporting a growing prevalence of anxiety in this population.[12] For this reason, standardized tools like the GAD scale have been widely used to evaluate anxiety levels among medical students to participate in the study.[13]

METHODS

This study is a cross-sectional descriptive study. The study was carried out at Nishtar Medical University Multan, Aziz Fatima Medical and Dental College Faisalabad, Karachi Metropolitan University and Liaqat College of Medicine and Dentistry Karachi from January to June (2025), spanning a period of 6 months.

Inclusion criteria

Undergraduate medical students enrolled in the university from first to final year at the time of the study, first-year students who had completed at least five months of study, qualifying them as part of the exposed population and students who gave informed consent were included.

Exclusion criteria

Students with any ethical or disciplinary issues that could affect the reliability or integrity of the data, students who were unavailable during the data collection period or refused to participate and students with incomplete or missing responses in the survey or questionnaire were excluded.

Sample size

Sample size of our study was 200. The study was calculated sample size from online EPI info website with 95% confidence interval and 5% margin of error. Data collection method was convenient sampling technique.

Questionnaire

The DREEM questionnaire for medical students' perception and the GAD Scale for anxiety has been used. The study was collected data manually. Questionnaire consist of 3 parts, first part is about demographic information, second part is about perception of student about environment and 3rd part was about anxiety scale.

Statistical analysis

The study was used SPSS-28 to analyze the data and determine the relationship between various variables. gender, as well as other factors such as age, year of study, and medical. The study was used the chi-square test to evaluate various programs based on their respective scores.

Ethical consideration

The study was asked each student to give consent if they wished to participate in the study. The study was included all students who agreed to participate in the study. The study was maintained the anonymity and confidentiality of the participants.

RESULTS

Of the 200 responses, 61.5% (n=123/200) were females and 38.5% (n=77/200) were males. There were a total of 200 medical students, with 31 (15.5%) from 1st year, 4 (2%) from 2nd year, 11 (5.5%) from 3rd year, 114 (57%) from 4th year, and 40 (20%) from 5th year. Overall, 1 (0.5%) subject reported a "very poor educational environment," 80 (40%) reported "plenty of problems," and 112 (56%) reported "more positive than negative." 7 (3.5%) subjects reported 'Excellent environment'. The mean perception score of medical students was 2.62 + 0.09, SD=0.56. Table 1 mentions the demographics and operational details.

The results of the chi square test (inferential analysis) in this case indicate that there was no significant perception difference between male and female, no significant relationship between year of medical education and perception, and no significant relationship between age and perception.

The results of chi square test in this case indicate that there is a significant relationship between the field of medical education and perception.

Of the 200 responses, 61.5% (n=123/200) were females and 38.5% (n=77/200) were males. Overall, 47 (23.5%) subjects reported that they suffer from 'minimal anxiety'. The 72 (36%) subjects reported that they suffer from 'mild anxiety'. The 52 (26%) subjects reported that they suffer from 'moderate anxiety'. The 28 (14%) subjects reported that they suffer from 'severe anxiety'. The mean anxiety score is 2.3±0.05, with an SD of 0.98.

Table 1: Demographic variables.

Variables		Frequency (%)
Age (in years)	18 to 21	38 (19)
	21 to 24	153 (76.5)
	24 to 27	8 (4)
	27 to 30	1 (0.5)
Gender	Female	123 (61.5)
	Male	77 (38.5)
Medical program	MBBS	169 (84.5)
	BDS	17 (8.5)
	DPT	10 (5)
	Any other	4 (2)
Year of study	1st	31 (15.5)
	2nd	4 (2)
	3rd	11 (5.5)
	4th	114 (57)
	5th	40 (20)

Table 1: Relationship between the perception of the medical educational environment and the field of education.

Perception	MBBS	BDS	DPT	Any other	Significance
Very poor educational environment	1	0	0	0	
Plenty of problems	71	6	3	0	
More positive than negative	93	4	11	4	0.035
Excellent environment	4	0	3	0	
Total	169	10	17	4	

Table 2: GAD scale of anxiety.

Questions	Not at all (%)	Several days (%)	More than half the days (%)	Nearly every day (%)
Feeling nervous, anxious or on edge	18.5	46	19	16.5
Not able to stop or control worrying	23.5	44	17.5	15
Worrying too much about different things	16.5	42.5	22.5	18.5
Trouble relaxing?	22.5	45.5	18.5	13.5
Being so restless that it's hard to sit still	44.5	25.5	15.5	14.5
Becoming easily annoyed or irritable	26.5	32.5	23.5	17.5
Being afraid as if something awful might happen	31.5	37	14	17.5

The study also conducted inferential analysis in addition to descriptive analysis. The study was employed the Chi-square test as the method. The subsequent sections reintroduce the hypotheses and showcase the results. The chi square test results show that there is no significant relationship between anxiety and gender difference, anxiety and age, anxiety and year of medical education, or anxiety itself.

DISCUSSION

The findings of this study indicate that the majority of students perceived their educational environment as "more positive than negative".[14] However, a considerable number of students also reported various concerns related to their academic experience, reflecting an underlying dissatisfaction.[15] This aligns with previous regional studies that aimed to evaluate how students perceive their educational environments and the impact on their academic satisfaction.[16]

The use of the DREEM questionnaire in this study proved to be effective, as it covers a wide range of dimensions including student perception of learning, teachers, academic self-perception, and the atmosphere of the educational setting.[17] This comprehensive approach revealed critical insights into both strengths and deficiencies within the system. It enabled identification of areas requiring focused improvement-such as teacher engagement, curriculum organization, stress management support, and student participation in feedback systems.[18] Addressing these aspects can improve not only the academic performance of students but also enhance their clinical competence, professional identity, and emotional well-being.[19]

Interestingly, only a small percentage of students rated their educational environment as excellent.[20] In a country where the medical profession is entrusted with the critical mission of saving lives, such statistics call for immediate attention to curriculum development, faculty training, and infrastructure improvements.[21] Medical institutions must prioritize the creation of a nurturing academic environment that fosters inclusivity, student support, and continuous feedback-based reforms.[22]

Another important observation was the significant presence of anxiety among students. Various degrees of anxiety-mild, moderate, and severe-were reported, which reflect the psychological burden carried by many future healthcare professionals.[23] This issue is consistent with international literature that documents high anxiety levels among medical students, often stemming from academic overload, emotional fatigue, and high-stakes clinical exposure.[24]

To address this, institutions must implement early screening strategies, mentorship programs, and counseling support systems aimed at preventing burnout and psychological distress.[25] Promoting physical activity, peer support, and student-friendly policies can also contribute to lowering anxiety and enhancing overall well-being.[26]

Ultimately, this study reinforces the critical importance of understanding how students view their educational environment. A positive environment not only cultivates knowledge and skills but also nurtures motivation, resilience, and long-term professional growth.[27] The findings serve as a guide for administrators and educators to prioritize targeted reforms in medical education, ensuring a supportive, inclusive, and high-quality academic journey for all students.

Limitations

Data was collected through self-reported questionnaires, which may introduce response or social desirability bias. The cross-sectional design limits the ability to assess causality or changes over time. Universities were selected non-randomly, which may affect the generalizability of results. Other influencing factors like academic performance, personal stressors, or support systems were not assessed. GAD scale was used to measure anxiety only.

CONCLUSION

Most medical students perceived their educational system as "more positive than negative" and "plenty of problems." In comparison to issues related to teachers, students, and the environment, these perceptions were relatively elevated. A significant portion of students reported experiencing mild to moderate levels of anxiety.

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