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A Cross-Sectional Study To Assess The Educational Environment Perception Among Medical Students

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ABSTRACT

There is ample evidence that the learning environment prevailing in an educational institution has an impact on the learning outcomes of students. Evaluating a teaching-and-learning environment from the angle of the students' perception is helpful to provide key elements for guidance and corrections at the management level. The World Federation for Medical Education emphasized the learning environment as one of the goals for the appraisal of medical education plans. Medical students engage in diverse learning activities within the medical college environment, which is often complex and unique. The curriculum is the most significant factor influencing this environment. To assess student's perception of educational environment using Dundee Ready Educational Environment Measure (DREEM).To identify weak areas in educational environment and suggest remedial measures to institute to rectify them. This cross-sectional, observational study was conducted on 218 MBBS students of 4th-semester pursuing their degree from a medical institute in southern Rajasthan . The study aimed to evaluate the educational environment using the Dundee Ready Educational Environment Measure (DREEM) questionnaire. All 4th-semester students who were willing to participate and provided written informed consent were included, while those undergoing treatment for depression or other psychiatric disorders were excluded from the study. Approval was obtained from the Institutional Ethics Committee (IEC) prior to data collection. The DREEM questionnaire, a validated and widely used tool for assessing the educational environment, was administered to the participants. Scores between 0 and 50 indicated a very poor academic environment, with no respondents (0%) in this category. Scores of 50-100 suggested significant challenges, reported by 43 respondents (19.72%). A score range of 100-150 reflected an environment that was more positive than negative, encompassing the majority (137, 62.84%). Scores between 150 and 200 indicated an excellent academic environment, reported by 38 respondents (17.43%). We conducted a study to assess students' perception of educational environment using DREEM score among 218 students and to identify weak areas in educational environment and suggest remedial measures to institute to rectify them.

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Key Words
Educational environment, dundee, dreem score, medical students perception

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INTRODUCTION

The environment is defined as the setting or conditions in which a particular activity is carried on (Oxford Dictionaries 2018, environment). The educational environment can be defined as the setting in which teaching and learning activities are carried on. There is ample evidence that the learning environment prevailing in an educational institution has an impact on the learning outcomes of students[1,2]. Evaluating a teaching-and-learning environment from the angle of the students' perception is helpful to provide key elements for guidance and corrections at the management level[3]. The World Federation for Medical Education emphasized the learning environment as one of the goals for the appraisal of medical education plans[4]. Medical students engage in diverse learning activities within the medical college environment, which is often complex and unique[5]. The curriculum is the most significant factor influencing this environment[6]. Research from various regions indicates that the educational environment impacts students' achievement, happiness, motivation and success[5-9]. Globally, medical educators are working to reform the educational environment to make it more student-friendly without compromising learning standards and quality. Effective curriculum management requires systematic feedback and assessment[10]. However, there are limited studies from India on this topic[11,12]. While various tools are available to allow medical educators to evaluate students' perceptions of their educational environments, the 50-item Dundee Ready Education Environment Measure (DREEM) tool is currently most frequently utilised. The DREEM is a culturally neutral, generic tool designed to evaluate undergraduate educational environments in health professions[13]. The DREEM tool is a widely accepted and globally validated instrument for assessing the educational environment in undergraduate medical institutions and has five subscales including perceptions of learning, perceptions of teachers, academic self-perceptions, perceptions of the environment and social self-perceptions. Dreem has proven to be highly reliable in different settings, allowing institutions to identify deficiencies and make curricular improvements[5,14,15]. This tool can help educational administrators identify problem areas at the curricular or institutional level and make necessary changes, resulting in significant improvements in the learning environment and therefore, student performance. This study aimed to evaluate student perceptions of the educational environment at a single medical college using Dreem. Our hypothesis was that both strengths and weaknesses would be identified. The results could provide a baseline to initiate measures for curricular reform.

Aims and Objectives:

- To assess student's perception of educational environment using Dundee Ready Educational Environment Measure (DREEM).
- To identify weak areas in educational environment and suggest remedial measures to institute to rectify them.

MATERIALS AND METHODS

This cross-sectional, observational study was conducted on 218MBBS students of 4th-semester pursuing their degree from amedical institute in southern Rajasthan . The study aimed to evaluate the educational environment using the Dundee Ready Educational Environment Measure (DREEM) questionnaire. All 4th-semester students who were willing to participate and provided written informed consent were included, while those undergoing treatment for depression or other psychiatric disorders were excluded from the study. Approval was obtained from the Institutional Ethics Committee (IEC) prior to data collection. Participants were briefed on the purpose and procedures of the study, including the significance of their input in improving the quality of education. Key terminologies, such as course organizers and registrars, were explained to ensure comprehension. Students were assured of complete confidentiality and anonymity, with instructions not to disclose their identity through roll numbers or names, thereby encouraging truthful and unbiased responses. The DREEM questionnaire, a validated and widely used tool for assessing the educational environment, was administered to the participants. The tool comprises 50 items grouped into five domains. Students' perceptions of learning, perceptions of teachers, academic self-perception, perceptions of atmosphere and social self-perception. Each item is rated on a 5-point Likert scale ranging from "strongly agree" (score 4) to "strongly disagree" (score 0). To ensure a 100% response rate, questionnaires were distributed and collected on the same day. Data collection was conducted via face-to-face interaction with the students and responses were manually reviewed to ensure completeness and accuracy. The study was conducted over one month following IEC approval or until the maximum sample size was achieved. Collected data were coded and categorized based on predefined variables, entered into a master chart using Microsoft Excel 2021 and subsequently analyzed using the Statistical Package for Social Sciences (SPSS) version 24.0. Descriptive statistics, such as mean and standard deviation (SD), were used for quantitative data.

RESULTS AND DISCUSSIONS

The global score was categorized into predefined ranges to evaluate the perceived quality of the academic environment. Scores between 0 and 50

Table 1: The Global Score was Interpreted as Follows

score range		percentage
0-50 (Academic environment is very poor)	0	0%
50-100 (Academic environment has many problems)	43	19.72%
100-150 (Academic environment is more positive than negative)	137	62.84%
150-200 (Academic environment is excellent)	38	17.43%
Total	218	100%

indicated a very poor academic environment, with no respondents (0%) in this category. Scores of 50-100 suggested significant challenges, reported by 43 respondents (19.72%). A score range of 100-150 reflected an environment that was more positive than negative, encompassing the majority (137, 62.84%). Scores between 150 and 200 indicated an excellent academic environment, reported by 38 respondents (17.43%).

Table 2: Mean and SD of Participants DREEM Scores in Each Domain

Domain	Score	Mean and Std Deviation
Students perception of learning	48	30.52±11.33
Students perception of teachers	44	27.36±7.68
Students academic self-perception	32	21.81±6.93
Students perception of atmosphere	48	28.86±9.94
Students social self-perception	28	16.67±5.46
Total	200	125.23±29.10

Analysis of participants DREEM scores revealed domain-wise insights. Students Perception of Learning had a mean score of 30.52±11.33, while Students Perception of Teachers recorded 27.36±7.68, highlighting variability in teaching quality. Students Academic Self-Perception showed 21.81±6.93, reflecting self-assessed competence. “Students” Perception of Atmosphere” recorded 28.86±9.94, indicating environmental supportiveness and “Students” Social Self-Perception” scored 16.67±5.46, emphasizing social influences. The total Dreem score was 125.23±29.10, providing a comprehensive view of the academic environment. These findings offer valuable insights into the multidimensional assessment of the educational environment. In a study by Phadke[16], the global DREEM score was 121.47±13.71, indicating a relatively positive perception of the educational environment, which is consistent with our study, where the total DREEM score was found to be 125.23±29.10. This suggests that students in both studies report a similarly favourable academic environment. However, when comparing the global scores from other medical institutions, some notable differences emerge. For example, in Sri Lanka by Jiffry[17], the DREEM global scores were reported as 108/200, while a study conducted in Trinidad among final-year students found a global score of 109.9/200 (Bassaw[18]). These scores are slightly lower or higher compared to ours, reflecting the diverse experiences students have across different curricula and cultural contexts. Our findings also align with the guide by McAleer and Roff[12], who suggest that a DREEM score between 101 and 150 indicates a “more positive than negative” environment. With a global score of 125.23±29.10, our study falls comfortably within this range, further supporting the positive perception of the educational climate in our institution. According to Abraham[10], the educational environment is crucial in shaping effective curricula and our study's results provide a valuable baseline for understanding how students perceive their learning environment. The analysis of DREEM scores reveals a generally favourable yet variable perception of the academic environment. While the students expressed moderate satisfaction with the learning atmosphere and teaching quality, there were notable challenges in areas such as academic self-perception and social support. The comprehensive findings suggest that while the educational environment is perceived positively overall, targeted improvements in fostering academic confidence, enhancing teaching methods and providing robust social support could further elevate the student experience. These insights underscore the importance of continuous evaluation and targeted interventions to improve the educational environment.

CONCLUSION

We conducted a study to assess students’ perception of educational environment using DREEM score among 218 students and to identify weak areas in educational environment and suggest remedial measures to institute to rectify them. We observed that Scores between 0 and 50 indicated a very poor academic environment, with no respondents (0%) in this category. Scores of 50-100 suggested significant challenges, reported by 43 respondents (19.72%). A score range of 100-150 reflected an environment that was more positive than negative, encompassing the majority (137, 62.84%). Scores between 150 and 200 indicated an excellent academic environment, reported by 38 respondents (17.43%).

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Conflict of Interest: None declared.

Ethical Approval: The study was approved by the Institutional Ethics Committee.

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