

Original Research Article

Evaluation of educational environment among MBBS students in a medical college from Central India

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ABSTRACT

Background: The educational environment plays a vital role in shaping the learning experiences, academic performance, and well-being of medical students. Evaluating students' perceptions helps identify strengths and gaps within the existing system and offers opportunities for improvement. The objective was to assess the perception of the educational environment among MBBS students in a medical college in Central India using the DREEM-12 (Dundee Ready Education Environment Measure) questionnaire.

Methods: A descriptive cross-sectional study was conducted among MBBS students at a tertiary healthcare center in Central India over a period of two months, from November to December 2024. A total of 492 students participated in the study through convenience sampling. The DREEM-12 questionnaire, consisting of 12 items across five subscales, was used to evaluate students' perceptions of learning, teachers, academic self-perception, atmosphere, and social self-perception. Each item was scored on a 5-point Likert scale, with a maximum possible score of 48.

Results: The overall mean DREEM-12 score was 30.92 out of 48, reflecting a generally positive perception of the educational environment. Subscale scores indicated favourable perceptions in students' learning (5.6), perception of teachers (8.2), academic self-perception (7.5), and perception of atmosphere (5.0). The lowest score was in social self-perception (4.63), highlighting the need for better stress management and social support systems.

Conclusions: The study revealed that MBBS students have an overall positive perception of their educational environment. However, targeted efforts to enhance social support and student well-being are essential to further improve the academic experience.

Keywords: Educational environment, DREEM-12, MBBS students, Medical education, Cross-sectional study, Central India

INTRODUCTION

Medical education is instrumental in shaping future healthcare providers, and the environment in which students are trained has a profound impact on their academic success, mental well-being, and overall satisfaction with their educational journey.^{1,2} Given the ever-evolving landscape of medical training, it is essential to continuously evaluate and enhance the educational

environment to align with the changing needs of students and the healthcare sector.¹

A major goal of the Competency-Based Medical Education (CBME) curriculum is to develop globally competent physicians capable of delivering high-quality care across varied healthcare contexts. CBME emphasizes structured clinical exposure, early patient interaction, and self-directed learning. It also fosters reflective practice,

enabling students to critically assess their own performance and recognize areas requiring improvement. Progress is tracked through formative assessments, logbooks, and multiple-choice questions, all aimed at delivering meaningful feedback.³⁻⁶

Understanding students' perceptions of their learning environment is crucial for identifying both strengths and areas in need of improvement. The Dundee Ready Education Environment Measure (DREEM) is a globally recognized and validated tool used for assessing the educational climate in medical institutions.⁷⁻⁹

This study was undertaken to assess the perceptions of MBBS students regarding their educational environment at a medical college in Central India, utilizing the DREEM-12 questionnaire.

The objective was to evaluate the perception of the educational environment among MBBS students in a medical college in Central India using the DREEM-12 questionnaire.

METHODS

Study design

This was a cross-sectional online survey conducted among undergraduate MBBS students at the Government Medical College, Nagpur.

Study population

The target population consisted of undergraduate MBBS students aged between 18 and 30 years.

Study period

The study period was from 3 months (November 2024-January 2025).

Sample size and sampling technique

A total of 500 third-year MBBS students, comprising both part I and part II batches, received the questionnaire via mobile-based platforms. Of these, 492 students completed the online questionnaire. The study employed a universal sampling technique.

Inclusion criteria

Inclusion criteria consisted of undergraduate medical students aged 18-30 years.

Data collection method

Data were collected using a structured, self-administered online questionnaire in English, distributed through social media platforms. The questionnaire included items on

sociodemographic characteristics and incorporated the DREEM-12 tool-an abridged, validated version of the DREEM-50 questionnaire-to assess students' perceptions of the educational environment. Participants responded to each item using a 5-point Likert scale ranging from strongly disagree (0) to strongly agree (4). Responses were compiled using Microsoft Excel.

Data management

The collected data were organized in Microsoft Excel and analyzed using Jamovi statistical software.

Data analysis

Descriptive statistics were used for data analysis. Categorical variables were summarized using frequencies and percentages, while continuous variables were presented as mean±standard deviation (SD).

RESULTS

Of the 492 students who participated in the study, 57% were male and 43% were female. The DREEM-12 results indicate an overall more positive than negative perception of the educational environment, with a total score of 30.92 out of 48. Students' Perception of Learning (SPOL) scored 5.6, reflecting a more positive perception, suggesting that students feel encouraged and supported in their learning. Perception of Teachers (SPOT) scored 8.2, interpreted as moving in the right direction, indicating satisfaction with teacher knowledge and communication, though improvements are needed. Academic Self-Perception (SASP) scored 7.5, showing students are feeling more on the positive side about their academic development. Perception of Atmosphere (SPOA) scored 5.0, showing a more positive attitude toward the learning environment. Social Self-Perception (SSSP) scored lowest at 4.63, categorized as not too bad, suggesting the need for better stress support and social integration.

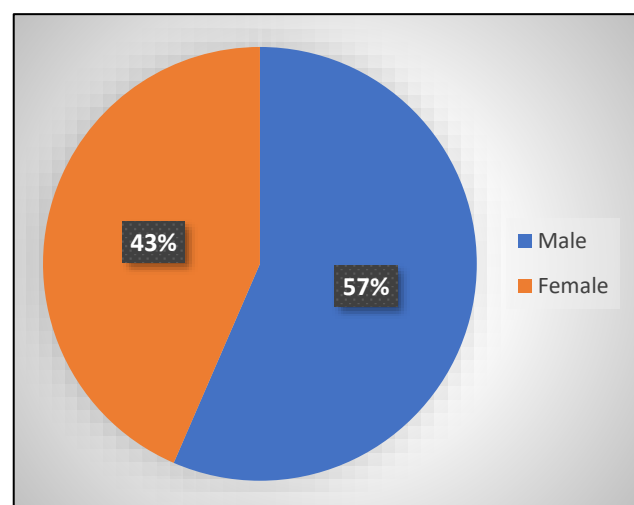


Figure 1: Distribution of study subjects according to gender.

Table 1: Mean Dundee Ready Educational Environment Measure 12 score and its interpretation.

Domain	DREEM-12 question items	Mean score	Total	Interpretation
SPOL	The teaching encourages me to be an active learner	2.8	5.6	More positive perception
	The teaching helps to develop my confidence	2.8		
SPOT	The course organizers are knowledgeable	2.9	8.2	Moving on right direction
	The course organizers give clear examples	2.7		
	The course organizers have good communication skills with students	2.6		
SASP	I feel I am being well prepared for my profession	2.5	7.5	Feeling more on the positive side
	My problem-solving skills are being developed here	2.6		
	Much of what I have learn seems relevant to a career in healthcare	2.4		
SPOA	I am able to concentrate well	2.5	5	More positive
	The atmosphere motivates me as a learner	2.5		
SSSP	There is good support system for students who get stressed	2.23	4.63	Not to bad
	My social life is good	2.4		
Total score		30.92	More positive than Negative	

SPOL: Student's perception of learning, SPOT: Student's perception of teachers, SASP: Student's academic self-perception, SPOA: Student's perception of atmosphere SSSP: Student's social self- perception, DREEM: Dundee Ready Educational Environment Measure.

DISCUSSION

In the present study, the overall DREEM-12 score was 30.92, suggesting a more positive than negative perception of the educational environment among students at our institution. This finding reflects a moderately favorable academic atmosphere and is comparable to previous studies such as Mehta et al who reported a score of 33.1, and Bavdekar et al who found a slightly lower score of 29.8.^{10,11} These variations may be attributed to differences in institutional teaching methods, faculty engagement, and student support infrastructure.

In the Students' SPOL domain, our findings highlight areas with scope for improvement, particularly in promoting active learning and building students' confidence. Mehta et al reported higher mean item scores (3.0 for encouragement to be an active learner and 2.9 for teaching that builds confidence), while Bavdekar et al reported lower scores (2.36 and 2.31, respectively).^{10,11} Notably, Algotar et al reported a domain score of 5.9 out of 8, indicating a generally positive perception of learning across their cohort.¹² This reinforces the importance of interactive and student-centered teaching strategies in enhancing learning experiences.

In the Students' SPOT domain, our students gave favourable ratings-3.1 for knowledgeable organizers, 2.9 for clarity of examples, and 2.8 for communication skills. These scores align well with those from Bavdekar et al (3.15, 2.44, and 2.71), and are complemented by the findings of Algotar et al who reported a domain score of 8.8 out of 12.^{11,12} This reflects a consistently positive view of teaching quality, though continued focus on clarity and communication could yield further benefits.

The SASP scores from Mehta et al were higher for preparedness (2.7), problem-solving (2.6), and relevance to future career (3.0), compared to Bavdekar et al (2.22, 2.4, and 2.6, respectively). Our findings fall within a similar range. Algotar et al reported a total SASP score of 8.3 out of 12, suggesting overall confidence in academic development.¹⁰⁻¹² These results underscore the need to further align curriculum content with real-world application to strengthen academic self-efficacy.

In the SPOA domain, Mehta et al reported scores of 2.7 for both concentration and motivation, while Bavdekar et al noted slightly lower scores (2.56 and 2.29).^{10,11} Algotar et al recorded a domain score of 5.4 out of 8, indicating a generally supportive environment.¹² These findings suggest that while the learning atmosphere is conducive, further efforts to enhance student engagement and motivation may be beneficial.

The SSSP domain showed mixed results. Mehta et al.¹⁰ reported scores of 2.1 (support systems) and 2.6 (social life), while Bavdekar et al reported 1.95 and 2.85, respectively.¹¹ Algotar et al reported the lowest score in this domain-4.7 out of 8-suggesting that social and emotional support remains an area needing attention across institutions.¹² Enhancing peer interactions, mental health services, and extracurricular opportunities could contribute to improved social well-being.

Limitations

The study employed convenience sampling, which may limit the generalizability of the findings. The use of self-administered questionnaires may have led to response biases, as students might have provided socially desirable answers rather than reflecting their true perceptions. The

cross-sectional design provides a snapshot of perceptions at a single point in time, but it does not account for changes in perceptions over the course of the academic program.

CONCLUSION

The study revealed that MBBS students at Government Medical College, Nagpur, generally had a positive perception of their educational environment, as assessed by the DREEM-12 questionnaire. The overall findings indicated favourable attitudes towards the learning process, academic self-perception, and the atmosphere, with the social self-perception domain requiring attention. There was a balanced representation of male and female students across all academic years, allowing for a comprehensive understanding of their experiences. Despite the positive outlook, there is a clear need for improvements in social support mechanisms, stress management, and integration within the academic environment to further enhance the students' overall well-being and academic success.

Recommendations

Institutions should focus on creating stronger social support systems for students, particularly to improve social self-perception, stress management, and peer integration. Revise teaching methods and enhance faculty training based on feedback to foster a more engaging and supportive learning environment.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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