

**EVALUATION OF MEDICAL STUDENTS' PERCEPTION OF THE LEARNING ENVIRONMENT AT A.C.S. MEDICAL COLLEGE AND HOSPITAL USING DREEM QUESTIONNAIRE****Dr. Vijayalakshmi<sup>1</sup>, Dr. S. A. Sridevi<sup>2\*</sup>, Dr. R. Sumitha<sup>3</sup> and Dr. T. Janagan<sup>4</sup>**<sup>1</sup>Associate Professor, OBG, ACS Medical College and Hospital, Chennai India. 600077.<sup>2</sup>Professor Pharmacology, ACS Medical College and Hospital, Chennai India. 600077.<sup>3</sup>Assistant Professor Pharmacology, ACS Medical College and Hospital, Chennai India. 600077.<sup>4</sup>Professor Pharmacology, Sri Muthukumaran Medical College and Research Institute, Chennai India 600069.**\*Corresponding Author: Dr. S. A. Sridevi**

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**ABSTRACT**

Educational Environment (EE) has got a potential impact on teaching-learning methods, feedback, academic performance and progress of the students. This questionnaire based study serves as a tool to solve any EE related problems. The Objective is to evaluate the medical students' perception of their learning educational environment (EE) using Dundee Ready Education Environment Measure (DREEM) questionnaire. This serves as a tool to improve the medical education among the medical students with changing trends in curriculum.

**KEYWORDS:** Dundee ready education environment measure (DREEM), educational environment(EE).**INTRODUCTION**

Everything that takes place within the classroom, department, faculty or university is the 'Educational Environment' and plays decisive role in determining the success of undergraduate medical education.<sup>[1]</sup> It is among the most important factors in the process of teaching and learning such as teachers, curriculum, resources, etc. It has been suggested that encouraging learning environment is a major determinant of motivation for learning and can lead to increased satisfaction, achievement and success of medical students.<sup>[2]</sup> The effectiveness of an educational program depends on quality of the EE in which students learn. The quality of the EE correlates positively with the academic success and satisfaction with educational programs.<sup>[3]</sup>

Perceptions of Students' about the EE has pivotal role in executing modifications and thus optimizing the EE.<sup>[4]</sup> It is possible to assess and modify the EE by employing appropriate methods and instruments to assess it.<sup>[5]</sup> The Dundee Ready Education Environment Measure (DREEM) questionnaire is very precise to the distinctive environment experienced by all students of healthcare courses.<sup>[1,6]</sup> This can be used as a device to emphasize the strengths and weaknesses of an educational institution, compare the performance and effectiveness of different medical schools, and make comparisons among students in different years of study and differences

between the genders. It can also be advocated to modify curriculum and to compare it with previous one.<sup>[5]</sup>

Effective learning methods matches with the medical students' perceptions of the educational environment, which ultimately shows students' learning experiences and outcomes. So this study mainly focusses on students perception on educational environment among second year MBBS students at ACS medical college and hospital, Chennai.

**MATERIAL AND METHODS**

The DREEM questionnaire consists of 50 items, each scored 0–4 on a 5–point Likert scale (4 = strongly agree, 3 = agree, 2 = uncertain, 1 = disagree and 0 = strongly disagree). However, 9 of the 50 items (numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50) were negative statements and should be scored in reverse manner. The maximum overall DREEM score is 200.<sup>[10]</sup> However, for all items, results should be presented so that the higher a score the more positive is the reading (a more favorable educational environment) and vice-versa.

Specific strengths and weaknesses of the education climate can be assessed with the help of DREEM inventory<sup>5</sup>. In addition to the overall "score" for the course, the questionnaire statements may also be subdivided to provide an indication of student perceptions of five major domains of educational environment; perception of learning (12 items/maximum

score 48), perception of teacher (11 items/maximum score 44), academic self-perception (8 items/ maximum score 32), perception of atmosphere (12 items/maximum score 48), and social self- perception (7 items/maximum score 28).

There were nine negative statements out of 50 (viz.8,12,15,16,21,23,34,39,45) which were given reverse score i.e. 0 = strongly agree (SA) and 4 = strongly disagree (SD), so that a higher score would indicate more positive responses.<sup>[1,5]</sup> Items with score <2 were identified as problem areas. Incomplete questionnaires were excluded from the analysis.

This study is a descriptive survey design method. The study was done at ACS medical college hospital, Chennai in march 2020 after approval by the Institutional Ethics Committee (No.35/2020/IEC/ACSMCH dt.04.03.2020). The participants were second year MBBS students(n=127). They were assured that all the data collected would remain confidential. The students were addressed regarding the importance of the study prior to the circulation of the google form. They were informed that these data collected were used for research purpose. Their willingness were obtained. The DREEM inventory, in the English language with an accepted validity and reliability used to collect data was framed in a google form. It was circulated to students' group. The responses were collected through the google form.

Data analysis done with SPSS v.16. The frequency distribution and percentages of socio demographic data

**Table-1: Demographic parameters (N=127).**

PARAMETER	n (%)
<b>Categories of enrolled students</b>	
Second year MBBS(female students)	66 (51.96)
Second year MBBS(male students)	61 (48.04)

**Table -2: DREEM questionnaire score expressed as mean and SD.**

DREEM Subscales	Mean (SD)	p value	Interpretation
Perception of learning ( max 48)	37.7 (3.469)	0.001	A more Positive perception
Perception of teachers (max 44)	28.7 (2.515)	0.001	Moving in the right direction
Academic self –perception (max 38)	23.5 (2.614)	0.001	Feeling more on the positive side
Perception of atmosphere ( max 48)	27.6 (4.725)	0.001	A more positive attitude
Social self –perception (max 28)	17.3 (2.72)	0.001	Not too bad
Total DREEM score (max 200)	134.8 (12.309)	0.001	More positive than negative

**Table-3:Mean (SD) values among male and female students.**

DREEM subscales with max value	Male students n=61	Female students n=66	Interpretation
Perception of learning (max 48)	31.2(3.878)	34.286(3.369)	A more Positive perception
Perception of teachers (max 44)	28.6(2.939)	28.286(1.485)	Moving in the right direction
Academic self –perception (max 38)	22.72(3.144)	24.429(2.470)	Feeling more on the positive side
Perception of atmosphere (max 48)	32.16(5.198)	30.571(2.095)	A more positive attitude
Social self -perception(max 28)	17.8(3.347)	19.571(2.060)	Not too bad
Total DREEM score(max 200)	131.48(15.145)	137.143(5.768)	More positive than negative

of the students were measures by descriptive statistics. Each domains were categorized and expressed as means and standard deviation (SD). Sample t-test was utilized to identify the significance of the male and female groups. p value < 0.05 was considered as statistically significant.

#### Questionnaire validation

Questionnaire validation was done in 15 (5–10%) students to review the questionnaire to determine whether the questionnaire measured what it was designed to measure. Content validation method was used for the validation procedure.<sup>[6,7]</sup> Answer to each question was reviewed by our experts and the requisite modifications and deletions were done to validate the 50 questions in the questionnaire. The following validation criteria were used:

- Time requirement for completion of questionnaire (5–10 min)
- Appropriateness of questionnaire for collecting data
- Repetition or inappropriate questions
- Logical order of questions
- Clear, concise and unambiguous questions
- Easy and meaningful instructions
- Comments and suggestions specified to the application guidelines<sup>[8]</sup>

#### RESULTS AND DISCUSSION

The questionnaire was administered to total 153 medical students studying in second year MBBS. 127 students (92.68%) students responded to the questionnaire.

From the above table it was found that female students actively participated than the male students. The perception of learning, perception of teachers, academic self perception, social self perception were better among female students than male, whereas the perception of atmosphere is found to be high in male students compared to female students.

Curriculum is dynamic ever changing series of learning experiences and extending as widespread entity ahead of classroom teaching in medical school. EE is one of the most important components of an effective curriculum. In present study response rate was 83 % which was found similar to earlier few studies.<sup>[1,5]</sup>

However, no learning environment can be completely free of weaknesses. The subscales are important for determining the areas for further remedial measures.<sup>[5]</sup> The female students responded better than the male students. The lowest mean scores for perceptions of atmosphere was seen and this shows that there was still scope to improve the accommodation facilities to the students. The results should be reflected at a higher level making the learning environment more effective. The major limitation of our study is the sample size. In future, the study can be expanded by comparing all four years of MBBS students. It can be extended to dental, nursing and paramedical students also, so the overall learning perspective will be obtained for the university.

### CONCLUSION

The educational environment was found to be positive for the medical students. We need improvements in the Improvements of atmospheric perspective. Routine feedback from the students will definitely improve on their perceptions of atmosphere. Future recommendations will be to create more compassionate conducive environment, so that the challenges can be met out in health care learning environment.

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### Conflict of interest

There is no conflict of interest in this study.

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