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HOW IS THE EDUCATIONAL ENVIRONMENT OF THE MEDICAL TEACHING INSTITUTIONS?: A PERCEPTION BY MEDICAL STUDENTS OF DR. DY PATIL MEDICAL COLLEGE, PUNE

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ABSTRACT

Background: Educational environment is crucial for success of the curriculum. The student's feedback is pivotal for the success of the educational climate. Dundee Ready Educational Environment Measure (DREEM) questionnaire is the most specific tool for investigation of the educational environment. Thus, this study was undertaken to evaluate the students' perception of their learning environment using DREEM Questionnaire. **Methods:** A cross-sectional Study was carried out among Final year Part I MBBS students using Simple Random Sampling. DREEM is a 50 item inventory, consisting of 5 subscales having maximum score of 200. The global score interprets as; 0–50 = very poor; 51–100 = many problems; 101–150 = more positive than negative; 151–200= excellent.The DREEM questionnaires were given to students followed by a brief explanation of the study, including anonymity. The scores were interpreted using McAleer and Roff's guide. **Results:** The overall response rate for 73 students was 100%.The mean score for perception of learning and academic skills was 23 (6.133) and 24 (8.108) respectively depicting plenty of problems. The mean scores for Perception of Teachers and Atmosphere was 23 (6.318) and 18 (5.317) showing more positive than negative aspect.The mean scores of 15 (23.77) in social self-perception domain reflected a more positive aspect . The composite score for majority (59%) of the students was between 101-150 depicting more positive than negative aspect. **Conclusion:** Special Students grievance cells should be established. MET training with refresher trainings of all the teachers should be carried out. Innovative teaching methods should be implemented.

KEY WORDS: DREEMS, Educational Environment, learning environment, perception.

INTRODUCTION

Educational environment has a significant effect on effective curriculum (Bassaw et al., 2003). "The quality of the educational environment reflects the quality of the curriculum" (Genn, 2001).[1] The environment experienced or perceived by students and teachers is reflected in the learning environment of an institution.[2] The educational environment is crucial for effective student learning. The engagement of the learner is one of the crucial factor which effects learning which is further affected by their motivation and perception of relevance.[1] Students' learning experiences and outcomes are significantly influenced by their educational climate.[3] Students' perception of the environment affects their behavior, academic progress and sense of well-being.[4,5,6] Educational environment tells how, why and what students learn which plays an important role in curriculum and may affect the quality of learning. The student's feedback is very crucial for the

success of the educational climate. The qualitative aspects of a given educational environment has many cultural and other determinants of how individuals observe it, ratings perceived precisely report their perceptions.[7] Educational environment is an important determinant of developing motivation in students[4] and is crucial in academic achievement, satisfaction and success. However, learning is a permanent change, in three domains: knowledge, attitude and psychomotor aspects of the students.[8] Recent studies depict that although teachers and students are educational partners their observations differ with respect to clinical setting in terms of quality.[9]

Various methodologies have been planned to uncover the educational climates, such as qualitative approaches[10] or the application of questionnaires.[6,10,11] Henzi and colleagues studied the learning environment in dental school by dental translation of medical student learning

environment survey [10]Dundee Ready Educational Environment Measure (DREEM) questionnaire[12] is the most specific tool for studying the environment perceived by students on medical and other health related courses. This instrument was designed by an international Delphi panel, and has been used in a number of undergraduate courses worldwide.[13]

The setting in which the learning takes place is one often ignored aspect which can aid students to imbibe various information and ideas. Several studies have been conducted about the learning process and how to create an effectual student environment. The DREEM questionnaire is an ideal tool for bringing out their opinions. Thus, this study was undertaken to evaluate the students' perception of their learning environment using DREEM Questionnaire.

AIMS AND OBJECTIVES
1. To assess the Students' Perceptions of Learning
2. To study the Students' Perceptions of Teachers
3. To assess Students' Academic Self-Perceptions
4. To assess Students' Perceptions of Teaching Atmosphere
5. To study Students' Social Self-Perceptions
6. T o give suggestions to overcome any lacunae found in the teaching environment

MATERIAL AND METHODS
Study Type: This was a cross-sectional Study
Study subjects: Final year Part I MBBS students of Dr.DY Patil Medical College, Pune
Sampling Technique: Simple Random Sampling
Instrument for Data Collection: The Dundee Ready Educational Environment Measure (DREEM) questionnaire, was used as a study tool for collection of data regarding students' perceptions about their educational environment. DREEM is a valid tool for highlighting shortcomings in learning process and it was developed by an international Delphi panel. It was designed using input from 80 international medical educators who visited Dundee from 1995-1997 and was made for undergraduate health professionals.DREEM was tested in Europe, Africa, Asia, Australia and America[4] .It is independent of culture, and has been translated to various languages.[3]
DREEM is a 50 item inventory, consisting of 5 subscales.
Students' Perceptions of Learning (SPL)-12 items; maximum score is 48;
Students' Perceptions of Teachers (SPT)-11 items; maximum score is 44;
Students' Academic Self-Perceptions (SASP)-8 items; maximum score is 32;
Students' Perceptions of Atmosphere (SPA)-12 items; maximum score is 48;
Students' Social Self-Perceptions (SSSP)-7 items; maximum score is 28.
Items were scored as follows: 4 for Strongly Agree (SA), 3 for Agree (A), 2 for Unsure (U) and 1 for Disagree (D)

and 0 for Strongly Disagree (SD). However, 9 of the 50 items (number 4, 8, 9, 17, 25, 35, 39, 48 and 50) are negatively phrased statements and scored 0 for SA, 1 for A, 2 for U, 3 for D and 4 for SD. The 50-item DREEM has a maximum score of 200, indicating the ideal educational environment. The maximal global score for the questionnaire is 200, and the global score is interpreted as follows: 0–50 = very poor; 51–100 = many problems; 101–150 = more positive than negative; 151–200= excellent.[14]

Methodology
The DREEM questionnaires were given to seventh semester students of Dr.DY Patil Medical College, Pune. The questionnaire was distributed to the students following a brief explanation of the objectives and data processing procedures, including anonymity and the importance of voluntary-based participation. Meanings of few terms such as 'course organizers' were explained to the students before the administration of DREEM. They were made to understand that the data would be used for research purpose and quality assurance, and they were asked to co-operate. The resulting scores for domains were interpreted using the guide proposed by McAleer and Roff.

STATISTICAL ANALYSIS
Data was entered and analysed using SPSS statistical software version 17.

RESULTS AND DISCUSSION
A total of 73 first professional MBBS students completed the questionnaire, giving an overall response rate of 100%.

Perception of Learning
The mean score for perception of learning in the target study was found to be 23 (6.133) which pointed out towards plenty of problems (Table I). In contrast to this in another study by Preethi G Pai et al[15] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014) where it was observed that medical students had a more positive perception of learning (Average mean score: 29.44). Similarly in the present study, maximum number (52%)of students scored between 13-24 again depicting plenty of problems in this domain followed by 39.7% students who scored between 25-36 showing more positive aspect than negative aspect in this domain. Similarly in another study by H. Ömer Tontuş[1] on DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey(2010), maximum number of medical students scored between 17-24 highlighting plenty of problems in this area.

Table I: Scoring pattern by students under Perception of Learning domain

Domains (Total Score)	N=73	Mean

		(Standard Deviation)
Perception of Learning(48)	**Scores (%)**	
1-12	**5 (6.8)**	**23 (6.133)**
13-24	**38 (52)**	
25-36	**29 (39.7)**	
37-48	**1 (1.5)**	

Score)		(Standard Deviation)
Perception of Academic Skills (48)	**Scores (%)**	
1-12	**7 (9.58)**	**24 (8.108)**
13-24	**29 (39.72)**	
25-36	**35 (47.9)**	
37-48	**2 (2.8)**	

Perception of Teachers

In the present study the mean score for this domain was 23 (6.318) showing more positive than negative aspect of the domain (Table II).Similarly, in a study by Preethi G Pai et al[15] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014),bit was found that their perception of course organizers moved in the right direction (Average mean score: 26.86). Half of the students scored between 23-33 showing more positive than negative aspect followed by 39.7 % students scoring between 12-22 indicating lot of problems in this area. Similarly, in another study by H. Ömer Tontuş[1] on DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey (2010), students' perception of the teachers was that they were" moving in the right direction" (23–33).

Table II: **Scoring pattern by students under Perception of Teachers domain**

Domains (Total Score)	N=73	Mean (Standard Deviation)
Perception of Teachers (44)	**Scores (%)**	
1-11	**3 (4.1)**	**23 (6.318)**
12-22	**29(39.72)**	
23-33	**37 (50.68)**	
34-44	**4 (5.5)**	

Perception of Academic Skills

In this study the mean scores were found to be 24 (8.108) highlighting plenty of problems in this area (Table III). Contrary to this, in a study by Preethi G Pai et al[15] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014), their academic self-perception was more on the positive side (Average mean score: 20.14). In the target study maximum (47.9%) scored between 25-36 depicting more positive than negative aspect followed by 39.72% students scoring between 13-24 indicating lot of problems in this area. Similarly, in another study by H. Ömer Tontuş[1] on DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey(2010), their academic self-perception was "Feeling more on the positive side" (17–24).

Table III: Scoring pattern by students under Perception of their academic skills domain

Domains (Total	N=73	Mean

Perception of Social Environment

In the present study the mean score for this domain was 18 (5.317) depicting that they felt more positive than negative in this aspect(Table IV). Similarly, in a study by Preethi G Pai et al[15] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014), their social self-perception could be graded as not too bad (Average mean score: 17.02).Majority (46.5%)of the students scored between 17-24 depicting more positive than negative direction. Similarly, in another study by H. Ömer Tontuş[1] on DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey(2010), the students' social self perception was not too bad (15–21).

Table IV: **Scoring pattern by students under Perception of their Social Environment domain**

Domains (Total Score)	N=73	Mean (Standard Deviation)
Perception of Social Environment (32)	**Scores (%)**	
1-8	**2 (2.73)**	**18 (5.317)**
9-16	**30 (41.09)**	
17-24	**34 (46.57)**	
25-32	**7 (9.61)**	

Perception of Learning Environment

The target study observed the mean scores of 15 (23.77) in this domain reflecting a more positive aspect of this area (Table V). Similarly, in a study by Preethi G Pai et al[15] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014), they had a more positive perception of atmosphere (Average mean score: 29.07).In this study more (38%) number of students scored between 8-14 depicting lot of problems but roughly equal number (35%) perceived a more positive aspect for the domain. Similarly, in another study by H. Ömer Tontuş[1] on DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey(2010) their perception of the atmosphere was "There are many issueswhich need changing "(13–24).

Table V: **Scoring pattern by students under Perception of Learning Environment domain**

Domains (Total	N=73	Mean

Score)		(Standard Deviation)
Perception of Learning Environment(28)	Score (%)	15 (23.779)
1-7	5 (6.84)	
8-14	28 (38.35)	
15-21	36 (35.61)	
22-28	4(19.2)	

Overall Interpretation of Teaching/learning Environment

In the target study majority (59%) of the students scored between 101-150 depicting more positive than negative aspect followed by 35% students scoring between 51-100 highlighting plenty of problems in the area (Table VI). Similarly, in a study by Preethi G Pai et al[1] on "Medical Students' Perception of Their Educational Environment" in Mangalore (2014), they had a more positive perception of atmosphere, majority scoring 124 out of 200.

Table VI: Composite Scoring pattern by students

Global(composite) Scoring	N=73 Scores (%)	Interpretation
0-50	2 (2.73)	Very Poor
51-100	26 (35.61)	Plenty of Problems
101-150	43 (58.9)	More Positive than Negative Environment
151-200	2 (2.76)	Excellent Environment

CONCLUSION

The DREEM subcategories are more realistic to measure of the overall motivation and learning attitude of the individual student. The DREEM inventory may be a useful tool for course/program organizers to ensure and maintain high quality educational environments and recheck students' standpoint. In the Target study though majority(59%) of the students a positive feedback ,still some problem areas were identified especially in the domains of learning, perception of teachers and their academic skills (mean score: 23,23 and 24) respectively. Special Students grievance cells should be established for addressing to their problems. MET training with refresher trainings of all the teachers should be carried out so as to improve their teaching skills. Innovative teaching methods should be introduced like computer based teachings, small group teachings, One minute percerter, quizes etc to make teaching more interesting. Prolonged teaching hours should be avoided.The teaching should be more practical based.

RECOMMENDATIONS

Special Students grievance cells should be established for addressing to their problems. MET training with refresher trainings of all the teachers should be carried out so as to improve their teaching skills. Innovative teaching methods should be introduced like computer based teachings, small group teachings, One minute percerter, quizes etc to make teaching more interesting. Prolonged teaching hours should be avoided. The teaching should be more practical based.

LIMITATIONS

The study was limited to a single cohort of medical students so the results cannot be generalized. Another limitation of the target study was social desirability bias.

RELEVANCE OF THE STUDY

Such kind of studies should be carried out frequently so that strengths, weaknesses, opportunities and threats can be identified in the educational system and innovative teaching methods and other interventions can be timely introduced accordingly.

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