

ASSESSMENT OF THE EDUCATIONAL ENVIRONMENT AMONG MEDICAL UNDERGRADUATE STUDENTS IN A GOVERNMENT MEDICAL COLLEGERamamurthy M. B¹, Lilian D' Souza², Ranganath T. S³, Arun Mohan M. V⁴**HOW TO CITE THIS ARTICLE:**

Ramamurthy M. B, Lilian D' Souza, Ranganath T. S, Arun Mohan M. V. "Assessment of the Educational Environment among Medical Undergraduate Students in a Government Medical College". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 29, July 21; Page: 8233-8239, DOI: 10.14260/jemds/2014/3036

ABSTRACT: BACKGROUND: The improved health of all people is the ultimate goal of medical education. Every student works hard to get into the best educational institution in order to pursue a competent career. Every institution has its core objective as imparting high standards of education and bringing out well trained students. The environment in which a student learns and grows is crucial to the overall development. **AIM:** To assess the perceptions of medical students of their educational environment. **SETTINGS AND DESIGN:** A cross sectional study was undertaken in a medical college with third year medical undergraduate students as the participants. **METHODS AND MATERIALS:** An internationally validated 50 item questionnaire, Dundee Ready Educational Environment Measure (DREEM) was administered to students. There are five aspects to the questionnaire based on Students' Perception of Learning, Students' Perception of the Teachers, Students' Academic Self Perception, and Students' Perception of the Atmosphere and Students' Social Self Perception. The students responded to each question of the subscale by a 5 point Likert scale ranging from Strongly Agree to Strongly Disagree. **RESULTS:** All the subscales were totaled and an average score was calculated to be 114.79/200. As per the classification in DREEM Scale a score between 101- 150 certifies an environment with 'More Positives than Negatives'. The students found the teachers knowledgeable, had learnt the importance of empathy, were confident of clearing exams and were very happy with their circle of friends. **CONCLUSIONS:** As per the final score, students are satisfied with their training environment and find the atmosphere conducive to learning. Teachers are encouraging and the students have a good social life. The results project good training to produce competent doctors in the society.

KEYWORDS: Medical, Students, DREEM, Environment, Perception.

INTRODUCTION: The improved health of all people is the ultimate goal of medical education. The World Federation for Medical Education is the international body representing all medical teachers and medical teaching institutions. It works to promote highest standards in medical education.¹ Learning environment plays a critical role in how students learn and determines the quality of outcome.^{2, 3, 4}

Every student works hard to get into the best educational institution in order to pursue a successful and competent career. Every institution has its core objective as imparting high standards of education and bringing out well trained students. The environment in which a student learns and grows is crucial to the overall development. Teaching and learning must be in a climate of mutual respect.⁵ A conducive environment will not only instill great interest in the student, but it will also bring out the best in them.

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The turning point in a student's career is considered just before she/he opts for a career choice. It goes without saying that it is at this stage that rigorous training in terms of coaching classes, extended lecture hours and multiple entrance exams form the integral part of every student's life.

A medical degree is one of the most sought after courses among the various professional courses. Young students prepare hard with dedication and commitment to land up in their dream college. There is four and half years of training in medical school followed by one year of compulsory rotatory internship. During this phase medical students need not only hands on experience with different types of clinical cases but they also need sound theoretical knowledge of basics.

A good academic and social environment is required in their training to ensure good quality doctors. The best way to assess an educational environment is to obtain a feedback from the students who live and experience it. What the students need to derive from their medical education is an appreciation of the unity of biological sciences, recognition of the requirements of health and the knowledge to promote health, prevent disease and treat when it occurs.

This reflects the main doctrine of medicine. Hence this study was taken up with the main objective of assessing the perceptions among medical undergraduate students of their educational environment.

MATERIALS & METHODS:

Study Design: This is a descriptive cross sectional study.

Study Subjects: All the third year medical undergraduate students were included in the study.

Study Period: The study was done between August 2012 to October 2012.

Study Setting: Government Medical College, Bangalore.

Questionnaire: The students were given a self-administered questionnaire.

Study Tool: Internationally validated and accepted 50 item Dundee Ready Education Environment Measure (DREEM)^{6,7} was used. This questionnaire is particularly suited to assess the educational environment in undergraduate medical students. The students responded to each question on a 5 point Likert scale ranging from Strongly Agree to Strongly Disagree.

Assessment of DREEM Tool: The scores ranged from 4 for Strongly Agree, 3 for Agree, 2 for Uncertain, 1 for Disagree and 0 for Strongly Disagree. 9 of the 50 questions (numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50) are negative statements and the scoring is reversed for them.

The overall score assessing the educational environment can be interpreted as follows:⁸

0-50 →Very Poor	51-100 →Plenty of Problems
101-150 →More Positives than Negatives	151-200 →Excellent

In addition to the total score there are five subscales in the DREEM (Table 1). Listed below are the subscales with the interpretation of the scoring.

Students' Perception of Learning:

0-12 → Very Poor	13-24 → Teaching is viewed negatively
25-36 → A more positive perception	37-48 → Teaching highly thought of

Students' Perception of the Teachers:

0-11 → Abysmal	12-22 → In need of some retraining
23-33 → Moving in the right direction	34-44 → Model teachers

Students' Academic Self Perception:

0-8 → Feelings of total failure	9-16 → Many negative aspects
17-24 → Feeling more on the positive side	25-32 → Confident

Students' Perception of the Atmosphere:

0-11 → A terrible environment	13-24 → There are many issues which need changing
25-36 → A more positive attitude	37-48 → A good feeling overall

Students' Social Self Perception:

0-7 → Miserable	8-14 → Not a nice place
15-21 → Not too bad	22-28 → Very good socially

Data Collection and Analysis: All the students of third year medical undergraduate students were informed about the purpose of conducting such a study. Informed consent was taken and students were assured of strict confidentiality. The students were instructed and then given fifteen minutes to complete the questionnaire. Statistical Analysis was done using Microsoft Word Excel 2007 and SPSS Version 16.

RESULTS: A total of 136 students participated in the study. Among the third year medical students 94 (69.1%) were males and 42 (30.9%) were females. The students were in the age group of 18-22 years. The mean age being 20.71 ± 0.759 (SD).

Currently 91 students (66.9%) were travelling from home to college, 24 (17.6%) were living in the college hostel and the rest 21 students (15.4%) were living in a paying guest accommodation. The marks secured by students to enter medical college ranged from a Minimum of 80% to Maximum of 97.8%, the Mean Score was $91.355\% \pm 3.76$ (SD), the Median value being 92.00%. The most repeated percentage was around 94% scored by 20 (14.7%) of the students.

In the DREEM questionnaire the five subscales were averaged and classified based on their scores. (Table 2) A score of 27.07 ± 5.523 (SD) (56.39% of total score) for students' perception of the learning environment indicates 'A more positive perception', a score of 23.18 ± 3.129 (SD) (52.68% of total score) for students' perception of their teachers shows 'Moving in the right direction', a score of 18.64 ± 3.069 (SD) (58.25% of total score) for students' perception of their confidence in academics signals 'Feeling more on the positive side', a score of 27.35 ± 4.365 (SD) (56.98% of total score) for students' perception of atmosphere in college refers to a 'A more positive attitude', and a score of

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18.56 ± 3.769(SD) (66.28% of total score) for students' social self-perception points towards a social life that is 'Not too bad'.

All the subscales were totaled and an average score was calculated to be 114.79/200. As per the classification in DREEM Scale a score between 101- 150 certifies an environment with 'More Positives than Negatives'.

DISCUSSION: About 45 (33%) undergraduate medical students who participated in the study are living away from the comfort of home for the first time. These students have to cope with a new living environment, in addition to a new academic environment.

The average score of 114.79 from the study shows an environment of 'More Positives than Negatives'. This is in comparison with a study done in 2003 with an average score of 107.44 (S. S. Mayya et al).⁹ Another study done by B. Unnikrishnan et al got an average score of 113 / 200 for 6th term(third year) and 120 / 200 for 8th term(fourth year) group of medical students.¹⁰

In Subscale 1, students have a 'positive perception' to their learning environment. From the scores we find that the students find the teaching stimulating and are encouraged to participate and become competent in their subject. They feel that the teaching emphasizes long term retention of facts and concepts, which is essential in this field of work.

In Subscale 2, students find the teaching 'Moving in the right direction'; they find teachers knowledgeable with good communication skills in order to impart tough concepts in an easily understood way. The examples are clear and the teaching is patient oriented.

In Subscale 3, the students have good self confidence in their academics 'Feeling more on the positive side'. They are confident of passing exams and have learnt the importance of empathy in this profession. At some instances they find memorizing the numerous facts difficult. But with continued training the students will definitely learn to retain more.

In Subscale 4, students have 'A more positive attitude' towards the college atmosphere. The surrounding to learn during lectures or in the hospital is relaxed and encouraging. The students realize that vast opportunities exist to learn and grow.

In Subscale 5, students find their social life 'Not too bad'. They have a fairly good circle of friends to socialize and are comfortable in their accommodation. At times they do get lonely, bored or at other times stressed due to exams and hectic schedules. Students should try and interact more with teachers and come out with the issues they are facing. The teachers are always open to help whether the problem is a professional or personal one.

CONCLUSION: The overall scores are also good. The students have expressed positive perceptions of their educational environment as they are being trained to become responsible, able and competent doctors of tomorrow's society.

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REFERENCES:

1. World Federation for Medical Education. Basic Medical Education WFME Global Standards for Quality Improvement. University of Copenhagen Denmark 2003.
2. Konings K, Brand-Gruwel S, Merrienboer J. Towards more powerful learning environments through combining the perspectives of designers, teachers and students. Br J Psychol Medicine 2005; 75: 645-660.
3. Hutchison L. Educational Environment. BMJ 2003; 326: 810-812.
4. Hoffman KG, Donaldson JF. Contextual tensions of the clinical environment and their influence on teaching and learning. Med Educ 2004; 38: 448-454.
5. Policy on the teacher-learner relationship and the learning environment in medical education. New Jersey Medical School. University of Medicine and Dentistry of New Jersey.
6. Roff S, Mc Aler S, Hardeen R, Al-Qahtani M, Ahmed A, Deza H, Groenen G, Primparyon P. Development and validation of the Dundee Ready Education Environment Measure(DREEM). Med Teach 1997; 19 (4): 295-9.
7. Roff S. The Dundee Ready Educational Environment Measure (DREEM)- a generic instrument for measuring students' perceptions of undergraduate health professions curricula. Med Teach. 2005; 27 (4): 322-325.
8. Genn JM. AMEE Medical Education Guide No. 23 (Part 1): Curriculum, environment, climate, quality and change in medical education – a unifying perspective. Med Teach 2001; 23: 337-44.
9. Mayya S, Roff S. Students' perception of educational environment: a comparison of academic achievers and under achievers at Kasturba medical college, India. Education for Health 2004 Nov; 17 (3): 280-291.
10. Unnikrishnan B, Rekha T, Mithra PP, Kumar N, Reshmi B. Perceptions of medical students about their educational environment in community medicine in a medical college of coastal Karnataka. Indian J of Community Medicine 2012 Apr; 37 (2): 130-2.

Subscale 1: Students' Perception of Learning (12 items / Maximum 48)	Average Score
1. I am encouraged to participate during teaching sessions	2.304
7. The teaching is often stimulating	
13. The teaching is student centred	
16. The teaching helps to develop my competence	
20. The teaching is well focused	
21. I feel I am being well prepared for my profession	
24. The teaching time is put to good use	
25. The teaching emphasizes learning facts over concepts	
38. I am clear about the learning objectives of the course	
44. The teaching encourages me to be an active learner	
47. Long term learning is emphasized over short term learning	
48. The teaching is too teacher centred	
Subscale 2: Students' Perception of Teachers (11 items / Maximum 44)	
2. The teachers are knowledgeable	

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6. The teachers are patient with the patients	2.301
8. The teachers ridicule the students.	
9. The teachers are authoritarian	
18. The teachers have good communication skills with patients	
29. The teachers are good at providing feedback to students	
32. The teachers provide constructive criticism here	
37. The teachers give clear examples	
39. The teachers get angry in teaching sessions	
40. The teachers are well prepared for their teaching sessions	
49. I feel able to ask the questions I want	2.377
Subscale 3: Students' Academic Self-Perception (8 items / Maximum 32)	
5. Learning strategies which worked for me before continue to work for me now	
10. I am confident about my passing this year	
22. The teaching helps to develop my confidence	
26. Last year's work has been a good preparation for this year's work	
27. I am able to memorise all I need	
31. I have learnt a lot about empathy in my profession	
41. My problem solving skills are being well developed here	
45. Much of what I have to learn seems relevant to a career in healthcare	2.316
Subscale 4: Students' Perceptions of Atmosphere (12 items / Maximum 48)	
11. The atmosphere is relaxed during hospital teaching	
12. Our academic course is well time tabled	
17. Cheating is a problem in this course	
23. The atmosphere is relaxed during lectures	
30. There are opportunities for me to develop interpersonal skills	
33. I feel socially comfortable in teaching sessions	
34. The atmosphere is relaxed during seminars / tutorials	
35. I find the experience disappointing	
36. I am able to concentrate well	
42. The enjoyment outweighs the stress of the course	
43. The atmosphere motivates me as a learner	2.262
50. The students irritate the teachers	
Subscale 5: Students' Social Self Perceptions (7 items / Maximum 28)	
3. There is a good support system for students who get stressed	
4. I am too tired to enjoy the course	
14. I am rarely bored in this course	
15. I have good friends in this course	
19. My social life is good	
28. I seldom feel lonely	
46. My accommodation is pleasant	
Table 1: DUNDEE READY EDUCATION ENVIRONMENT MEASURE (DREEM)	

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Subscales	Minimum Score	Maximum Score	Mean/ Total	Result
1.Students Perception of Learning	13	39	27.07/ 48	A more positive perception
2.Students Perception of Teachers	14	29	23.18/ 44	Moving in the right direction
3.Students Academic Self-Perception	11	28	18.64/ 32	Feeling more on the positive side
4.Students Perceptions of Atmosphere	11	37	27.35/ 48	A more positive attitude
5.Students Social Self Perceptions	7	28	18.56/ 28	Not too bad
Total Score	74	144	114.79/200	More positives than negatives

Table 2: Subscale Percentage Scores

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