ASSESSMENT OF THE EDUCATIONAL ENVIRONMENT AMONG MEDICAL UNDERGRADUATE STUDENTS IN A GOVERNMENT MEDICAL COLLEGE
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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.

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.
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) 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

| Score Range | Interpretation            |
|-------------|---------------------------|
| 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% ± 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
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). 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.

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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| 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 |
| Statement                                                                 | Score |
|--------------------------------------------------------------------------|-------|
| 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                              |       |

**Subscale 3: Students’ Academic Self-Perception (8 items / Maximum 32)**

| Statement                                                                 | Score |
|--------------------------------------------------------------------------|-------|
| 5. Learning strategies which worked for me before continue to work for me now | 2.377 |
| 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 |       |

**Subscale 4: Students’ Perceptions of Atmosphere (12 items / Maximum 48)**

| Statement                                                                 | Score |
|--------------------------------------------------------------------------|-------|
| 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                             |       |
| 50. The students irritate the teachers                                   |       |

**Subscale 5: Students’ Social Self Perceptions (7 items/ Maximum 28)**

| Statement                                                                 | Score |
|--------------------------------------------------------------------------|-------|
| 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)
### Table 2: Subscale Percentage Scores

| 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               |

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