

Original Research Article

## **Students' perception of their Educational Environment in a Medical College in Odisha, India**

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**Abstract:** Learning environment in any medical school is found to be important in determining students' academic success. There is a need to evaluate perceptions of the educational environment of training institutions for health professionals as part of any assessment of quality standards for education. Present study was undertaken to assess students' perception about the education environment and compare the variation in perception among male & female students and students of different semesters at MKCG Medical College, Berhampur, Odisha. Cross sectional study was conducted using Dundee Ready Education Environment Measure (DREEM) questionnaire among 278 undergraduate students of four semesters. Overall mean score was 118.8 (of a maximum of 200) indicating relative satisfaction of students with the perceived environment. Students' perception of learning (28.9), of the teachers (36.7) and their academic self perception (19.8) revealed more positive perception score. Similarly perception of student of the atmosphere (26.8) and their social self perception (19.8) revealed more positive attitude. There was no individual areas of excellence (score > 3.5). But some items scored badly with score less than 2 indicating area of concern. No difference in mean score of perceptions among the students of different semesters was found in the domains. Similarly among male and female students no significance observed in mean scores except their perception of teachers. Though overall score for all the domains was encouraging, individual scoring reflected problematic areas of learning environment for some aspects for which remedial measures need to be taken.

**Keywords:** Education environment, Medical education, Academic self perception.

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### **INTRODUCTION**

Most medical students are young adults who enter into the profession with hard work. But once inside they face many challenges. Societal pressure for excellency, fierce competition for higher studies, lack of ability to manage time appropriately are few of the challenges which they have to face. Learning environment plays important role in influencing them. The Environment is composed of a set of cultural, social, economic and technical conditions that characterizes the situation [1]. As described by Bassaw B *et al* "Learning environment in any medical school is found to be important in determining students' academic success" [2]. The "educational environment" (EE) defined as everything that happens within the classroom, department, faculty, or university is crucial in determining the success of undergraduate medical education [3,4]. It is evident from recent researches that, the educational environment plays a significant role in

relation to a student's behavior, academic development as well as in their feeling of wellbeing while undergoing the learning program [4]. The educational environment includes all the academic influences to which students are exposed. Its assessment, therefore, is essential to understand observed learning outcomes and plan program improvements [5]. Students' perceptions of their educational environment are a useful basis for modifying and improving the quality of educational environment. Continuous quality improvement and innovation are very essential in a medical school [6]. Many methods have been used to assess the same. Among them, the DREEM (Dundee Ready Educational Environment Measure) questionnaire is said to be one of the widely used and more specific tools in relation to assessing educational environment, especially in relation to medical education [7]. DREEM was originally developed at Dundee and has been validated as a universal diagnostic inventory for assessing the

quality of educational environment. (DREEM) is useful in identifying the strengths and limitations of the educational environment [8].

Present study was conducted with the following objectives:-

1. To assess the students' perception of their education environment.
2. To study self perception of their academic achievement.
3. To assess the variation in perception among male and female students and students of different semesters.
4. To identify the problem areas in the educational environment.

## MATERIAL AND METHODS

This cross sectional study was conducted in MKCG Medical College, Odisha from October 2015 to January 2016. Study subjects included the undergraduate students of 3rd, 5th, 7th and 9th semesters. Inclusion criteria was all the willing students present on the day of data collection. Students of the 1st semester were excluded from the study as they were not exposed to the clinical teaching. For this study Dundee Ready Educational Environment Measure (DREEM) questionnaire was used [9]. DREEM is a generic, highly reliable and diagnostic 50 item inventory where each item is scored using a five-point Likert scale with 0=strongly disagree, 1=disagree, 2=unsure, 3=agree and 4=strongly agree. Reverse scoring was used for the nine negative items (4, 8, 9, 17, 25, 35, 39, 48, and 50) where strongly agree was scored 0 and strongly disagree scored 4. The 50 items have been categorized into five domains a) Students' Perceptions of Learning (SPL)-12 items; maximum score is 48; b) Students' Perceptions of Teachers (SPT)-11 items; maximum score is 44; c) Students' Academic Self-Perceptions (SASP)-8 items; maximum score is 32; d) Students' Perceptions of Atmosphere (SPA)-12 items; maximum score is 48; e) Students' Social Self-Perceptions (SSSP)-7 items; maximum score is 28. The total score for all sub scales is 200. After obtaining clearance from the Institutional ethical committee all the students' class representatives were informed about the study. They were requested to inform the respective students of each class to be present at the end of day on scheduled date. A brief introduction about the objective of the study and of DREEM was explained at the beginning. Self-administered questionnaire was used and it was anonymous. As willing students participated in the

study anonymously, a separate consent form was not collected.

In addition to the DREEM questionnaire data was also collected on age, sex, and semester of each participant. Data thus collected were entered into excel sheet. The McAleer and Roff practical guideline [10] was used to interpret the results: an overall score of 0 to 50 as very poor, 51 to 100 as plenty of problems, 101 to 150 as more positive than negative, and 151 to 200 as excellent. The individual DREEM items were interpreted as follows: items having a mean score of  $\geq 3.5$  are real positive points,  $\leq 2$  indicate problem areas, and between 2 and 3 are aspects of the environment that could be improved. For interpreting the sub scale areas guideline is as follows-

### Students' Perception of Learning

- 0-12 Very Poor
- 24. Teaching is viewed negatively
- 36. A more positive perception
- 48. Teaching highly thought of

### Students' Perception of Course organizers

Abysmal

- 11. In need of some retraining
- 33. Moving in the right direction
- 44. Model course organizers

### Students' Academic Self Perceptions

- 8. Feelings of total failure
- 16. Many negative aspects
- 24. Feeling more on the positive side
- 32. Confident

### Students' Perception of Atmosphere

- 12. A terrible environment
- 24. There are many issues which need changing
- 36. A more positive attitude
- 48. A good feeling overall

### Students' Social Self Perceptions

- 7. Miserable
- 14. Not a nice place
- 21. Not too bad
- 28. Very good socially

## RESULTS

Of total 319 questionnaires, analysis was done with 278(87.1%) completely filled in forms. Age range varies from 19 - 28 years with median age of 22 years. Of them 58.2% were males and 41.8% were

females. Percentage of students of different semesters was as follows: 30.9%, 23.7%, 17.2% and 28.2% from

9th, 7th, 5th and 3rd semesters respectively. (Table no 1)

**Table 1: Sex and semester-wise distribution of students**

	9th	7th	5th	3rd	Total
Male	49	31	28	54	162(58.2)
Female	37	35	20	24	116(41.8)
Total	86(30.9)	66(23.7)	48(17.2)	78(28.2)	278

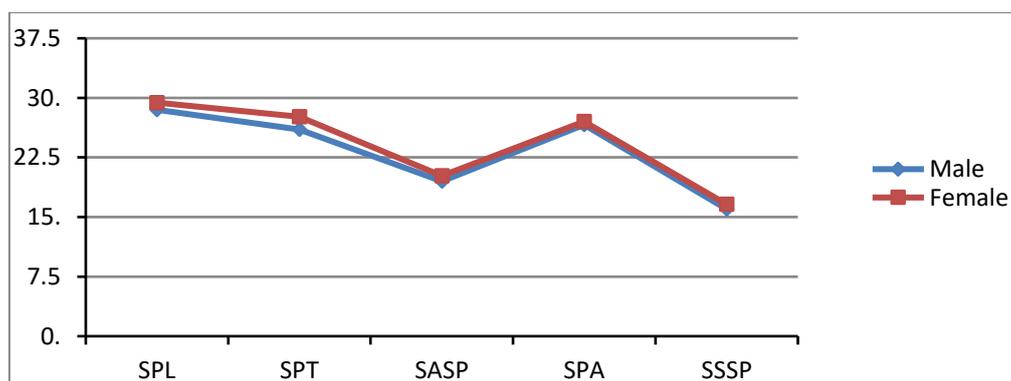
Overall DREEM score was 118.9 with SD of 20.8. Highest score was for the 7th semester students (127.8) and least was for the 3rd semester students (113.4). Scoring for Students' Perception of learning, Students' perception of Teachers, Students' Academic Self Perception and Students' perception of Atmosphere for the all the semesters was more positive than

negative and moving in the right direction and Students 'Social Self Perception was not too bad. Though score in each domain was more for the 7th semester students, no statistical significance was seen in score of different semesters. (Table 2) Significant difference was observed in mean score of male & female students on their perception on teachers only (Fig 1).

**Table 2: DREEM Domain Score of each semester students**

DREEM domain (Max score)	9 <sup>th</sup> sem (n=86) Mean+sd	7 <sup>th</sup> sem (n=66) Mean+sd	5 <sup>th</sup> sem (n=86) Mean+sd	3rdsem (n=86) Mean+sd	Total (n=278) Mean+sd	Interpretation
Overall score (200)	118.1+16.5	127.8+20.4	116.7+23.7	113.4+21.5	118.9+20.8	More positive than negative
SPL (48)	28.6+5.1	31.1+5.1	29.3+5.2	27.0+6.7	28.9+6.1	More positive perception
SPT (44)	26.5+ 5.0	29.1+4.7	25.8 + 6.7	25.5 + 5.3	26.7 + 5.5	Movingin the right direction
SASP (32)	19.9+ 3.7	21.0+4.5	20.1 + 4.0	18.5 + 4.4	19.8+4.2	Feeling more on the positive side
SPA (48)	26.6+4.8	29.0 +6.5	25.3 + 7.1	26.1 + 5.8	26.8+ 6.1	More positive attitude
SSSP (28)	16.3+3.1	17.5+3.5	15.7+4.1	15.6+3.7	16.3+3.6	Not too bad

SPL-Students' Perception of learning, SPT- Students' perception of Teachers, SASP-Students' Academic Self Perception , SPA-Students' perception of Atmosphere, SSSP- Students 'Social Self Perception , Sd-Standard deviation



**Fig-I Sex-Wise Distribution Of Domain Score**

SPL-Students' Perception of learning, SPT- Students' perception of Teachers, SASP-Students' Academic Self Perception , SPA-Students' perception of Atmosphere, SSSP- Students 'Social Self Perception )

Considering the score of individual items, there was no individual areas of excellence (score>3.5). Majority of the item score were between 2 to 3. But three items scored more than 3 which were as follows (Item no 2-The course organizers are knowledgeable, Item no 10-I am confident about passing this year, Item

no 15.I have good friends in this course). For few of the items, overall score was less than 2 indicating problem areas. (Table- 3) Also individual semester wise score was less than 2 for the same items except item no 3 and 7 where score was more than 2 for 7th semester students only.

**Table-3: Items with scoring less than 2**

Item No	
3	There is a good support system for students who get stressed
8	The course organizers ridicule their students
12	The course is well timetabled
14	I am rarely bored on this course
25	The teaching over emphasizes factual learning
27	I am able to memorize all I need
48	The teaching is too teacher centred.

**DISCUSSION**

DREEM’s questionnaire was used to measure the perception of students on their educational environment. Analysis was done with 278(87.1%) completely filled in forms. Age range of the participant students varies from 19 - 28 years with median age of 22 years .As 1st semester students were excluded from the study because of lack of exposure to clinical teaching, majority of the students were adults. Overall global score was more positive than negative. Also global score for all the semesters was more positive than negative. But in none of the domains highest score was obtained which indicates areas of improvement. But this might be due to only 46% participated out of the 600 students. Similar findings have been reported from a study by Abraham R et al where mean DREEM score was 117/200 (n = 226) [11]. Another study reported mean score of 107.44/200 [12]. Naser SM et al reported that the undergraduate students were more satisfied with the learning environment at Calcutta National Medical College and Hospital (as indicated by their higher DREEM score) compared to the postgraduate students. There was insignificant difference in perception among male and female students [13]. In this study there was no difference in Global score of male and female students but significant difference was observed in mean score of male & female students on their perception on teachers only. Abraham R reported not much difference in overall DREEM score of male and female students [10]. Mayya SS reported low total DREEM score for female academic under-achievers compared to their male counterparts in a study conducted at an Indian medical school [12]. In present study, considering the score of

individual items, there was no individual areas of excellence (score>3.5).For few of the items, overall score was less than 2 which indicates problem areas. But semester wise score in item no 3 and 8 were more than 2 for 7th semester students only. The reason for that might be due to relaxed attitude of 7th semester students. Poor scoring in item 3 (*There is good support system for the stressed out students*) might be due to lack of mentorship programme in the institution. Patil A A had reported in their study that Student’s social self perception was not too bad. Fifth semester students scored significantly higher in this domain as well as for items 3 and 4. They had explained that this difference in results was probably due to the well-established mentoring program that helps students to have informal interactions with mentors who guide them to overcome stressful situations with proper perspectives [14].

Another study from UK reported mean total score of 124 with no individual areas of excellence. Female students and clinical students perceived the environment significantly to be more positive compared to male students and preclinical students. Also some areas of concern were identified like no support system for stressed out students, school timetabling, feedback from teachers and memorisation of the facts [15].

In present study under the subdomain of Students academic self perception item 27 “*I am able to memorize all I need*” with a score less than 2 was really matter of concern. In spite of that students scored uniformly highest for item 10 (*I am confident about my passing this year*). Naser SM et al also reported problematic areas of learning environment in their

medical college which generates an idea of adopting some remedial measures in the form of small group learning and problem based learning where there is enough scope of student-teacher interaction and practical exposure [13].

Kohli V et al in their study in a college in Delhi reported that the three most highly rated items were 'The teachers are knowledgeable,' 'I have good friends in this school,' and 'I am confident about my passing this year'; three items that students had the greatest problem with were 'There is a good support system for students who get stressed,' 'I am able to memorize all I need,' and 'The teaching over-emphasizes factual learning' [16]. This finding was similar to the findings of the present study. For few items under Students' perception of learning and Students' perception of teachers score was less than 2. It might be due to traditional method of teaching with authoritarian attitude of teachers. Limitation of the study was that number of participants was less. In addition to the DREEMs questionnaire, focus group discussion would have thrown light on the perception of students on their educational environment in detail.

## CONCLUSION

Overall score for all the domains was encouraging. Individual scoring reflected problematic areas in all the five domains. No difference in perception among students of different semesters was found. Hence scope of improvement was there for all the domains. Faculty development programme would help to improve the teaching learning process and mentorship programme would help the students during period of stress.

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