

## Original Article

## PERCEPTIONS OF MEDICAL STUDENTS ABOUT EDUCATIONAL ENVIRONMENT AT SERVICES INSTITUTE OF MEDICAL SCIENCES LAHORE

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**Objective:** The objective of this study was to assess the perceptions of undergraduate medical students of Services Institute of Medical Sciences (SIMS), using DREEM questionnaire.

**Material and Methods:** All students from the final year MBBS class of the medical college (n=150) were included in the study. The non-parametric chi-square test and Mann Whitney U Test were used to determine the significance of differences (proportion of frequencies) for individual items.

**Results:** The total no of final year students of medical college were 150 with 135 respondents with 43% males and 57% females. DREEM score SIMS medical college in metropolitan city was 118.6 indicating a positive perception.

**Conclusion:** DREEM is a valid instrument for the measurement of students' perceptions worldwide.

**Keywords:** Academic perception, educational environment, DREEM (Dundee Ready Educational Environment Measure), Pakistan.

### Introduction

The environment in the classroom, departments, hostels and other facilities is associated with the success of a medical institution. These domains make up the total educational environment.<sup>1-3</sup> By Understanding the environment of medical institutions different strategies can be effectively developed for appropriate changes. The educational environment have a significant impact on their behaviour, academic progress and sense of well being of students.<sup>4,5,6,7</sup> In recent years there has been an increasing interest in the role of learning environment in undergraduate medical education. Appropriate educational environment may help in successfully achieving goals of a curriculum.

Dundee Ready Educational Environment Measure (DREEM) for undergraduates have been used to measure educational environment.<sup>3</sup> The 50 item DREEM questionnaire was developed by an international Delphi panel of professional health educationists. It has been applied to several undergraduate courses worldwide.<sup>5,6,9,10</sup> The inventory was validated by over 1,000 students world-wide and is now being used widely in order to measure and 'diagnose' undergraduate educational environment in the health professions. It has been translated into several languages, including Spanish, Portuguese, Arabic, Swedish, Norwegian, Malay and Thai; it has been used in several settings including the Middle East, Thailand, Indonesia, Malaysia,

Norway, Sweden, Venezuela, Brazil, the West Indies, Sri Lanka, Oman and Yemen.<sup>11-13</sup>

The DREEM measures perceptions of the learning environment of educational institutions in the following five subscales:

- Students' perceptions of learning (PoL)
- Perceptions of teachers (PoT)
- Academic self-perception (ASP)
- Perceptions of atmosphere (PoA)
- Social self-perceptions (SSP).<sup>5</sup>

Validity and reliability of the tool has been established through several studies conducted in different institutions.<sup>7-9</sup>

The present study was conducted to measure the educational environment at Services Institute of Medical Sciences Lahore. The aim of this study was to assess the perceptions of undergraduate medical students of Services Institute of Medical Sciences (SIMS), using DREEM questionnaire.

### Material and Methods

It was a Quantitative, Cross-sectional survey based on DREEM questionnaire done at SIMS. The instrument consists of 50 items each scoring on a five point Likert scale.

#### Scoring the DREEM

Items are scored as follows:

- 4 Strongly Agree (SA),
- 3 Agree (A),

- 2 Uncertain (U),
- 1 Disagree (D) and;
- 0 Strongly Disagree (SD).

An institute can score a maximum 200, indicating the ideal educational environment as perceived by the students. A score of 0 is the minimum and would be a very worrying result for any institute<sup>8,9</sup>

The following is an approximate guide to interpreting overall score:

- 0-50 Very Poor
- 51-100 Plenty of Problems
- 101-150 More Positive than Negative
- 151-200 Excellent

Data were collected from a total of 135 students of final year. We distributed the questionnaire at the end of scheduled lecture. The attendance was ensured through the department of medical education. Before administration of the questionnaire the students were thoroughly briefed about the purpose of the study and data collection process. Anonymity and confidentiality of their responses were maintained. We explained the students that this data will be used for research, quality assurance and improvement purposes. Terms like 'factual learning', 'ridicule', 'authoritarian' were explained before the students began to fill the questionnaire.

Statistical analysis was carried out through SPSS version 19. The non-parametric Mann Whitney U Test was used to determine the significance of differences (proportion of frequencies).

## Results

Students' Perceptions about Educational Environment at SIMS

Out of a total of 150 students, 135 (90.9%) filled the questionnaire. There were 43% males and 57% females in the sample.

Student Perception of Learning at SIMS (SPL)

The average score for this subscale was 27.2 (54.6%). Overall, perception about learning environment was positive. Mean score for males in the sub scale was 27.5, while mean score for females was 26.9 (P = NS). There were no items with mean scores  $\geq 3.5$  (real positive). Nine items had mean score between two to three, interpreted as items that 'could be improved'. There were 3 items with mean score  $< 2$ , meaning these were the problem areas needing serious attention.

Students' Perception of Teachers at SIMS (SPT)

The total mean score of subscale was 25.2 while the total mean score for males was 26.2 and for females,

24.2 (P=NS). So the interpretation of this subscale was that the students perceived that the teachers were moving in the right direction. The items with mean scores  $\geq 3.5$  (real positive) were zero. There were 10 items with mean score between two to three, meaning these items needed enhancement. There was 1 item with mean score  $< 2$ , identified as problems area needing serious attention.

Student Academic Self Perception at SIMS (SASP)

The total mean score of subscale was 16.6 with total mean score of males as 18 and for females as 15.2 (P = Significant). 4 items scored between two to three, interpreted as needing enhancement. There were 4 items with mean score  $< 2$ , showing flaws needing improvement in the system.

Student Perception of Atmosphere at SIMS (SPA)

The total mean score of subscale was 29.6, while total mean score of male was 29.4 and females 29.9 (P=NS). So the interpretation of this subscale was a more positive change. The items with mean scores  $\geq 3.5$  (real positive) were zero. There were 12 items with mean score between two to three (needs enhancement).

Student Social Self Perception at SIMS (SSSP)

The total mean score in this subscale was 19.95, while the mean score for males was 19.8 and for females was 20.1 (P = NS). So the interpretation of this subscale was not too bad. Only one item had a mean scores  $\geq 3.5$  (real positive). There were 6 items with mean score between two and three indicating 'needs enhancement'. There was no item with mean score  $< 2$ .

**Table-1** provides the details of mean items score and the difference between the scores of males and females at SIMS.

Students' Overall Perceptions about Educational Environment at SIMS

The total DREEM score for SIMS was 118.9 (59.3%) indicating more positive than negative perceptions. The students also perceived that the place was nice from social perspective (SSSP score = 19.95). Following items received minimum score by the students, indicating serious deficiencies for improvement.

- what I have to learn seems relevant to a career in healthcare (Score 1.8).
- I am confident about passing this year (Score 1.7).
- I feel I am being well prepared for my profession (Score 1.9)
- I have learnt a lot about empathy in my profession (1.9)

**Table-1:** Students' overall perceptions of educational environment at SIMS.

DREEM & its Subscales	Maximum score	Mean Score for SIMS		Interpretation
		Mean Score	Percentage	
All items	200	118.6	59.9	More positive than negative
SPL	48	27.2	56.66	A more positive perception
SPT	44	25.2	57.27	Moving in right direction
SASP	32	16.6	51.87	Feeling more on the positive side
SPA	48	28.65	61.77	A more positive attitude
SSSP	28	19.95	71.25	Not too bad

**Table-3:** Distribution of male and female responses about educational environment at SIMS.

Domains	Male	Female	P-value	SIMS Mean
Students' Perception of Learning	27.5	26.9	NS	27.2
Students' Perception of teachers	26.2	24.2	24.2	16.6
Students' Academic Self-Perception	18.0	15.2	<0.05	29.65
Students' Perceptions of Atmosphere	29.4	29.9	NS	29.65
Students' Social Self Perceptions	19.8	20.1	NS	19.95
Total	120.9	116.3	NS	118.6

**Table-1** provides the overall score and individual subscale scores for SIMS. Difference between the Perceptions of Males and Females about Educational Environment at SIMS

The total scores of all subscales between males and females was 120.9 and 116.3 respectively ( $P = NS$ ). The overall score of perception of females was lesser than the score of males about educational environment but generally the response rate was positive. **Table-2** provides the distribution of male and female responses for the overall DREEM scores and for the five subscales. Except students academic self perception there was no significant difference between the responses of males and females.

**Table-2** Distribution of male and female responses about educational environment at SIMS

## Discussion

This study was done to determine the perceptions of undergraduate medical students of (SIMS) located at Lahore. SIMS scored 118.6 (59.3%). Although the score is comparable with the studies done in different medical institutions of Punjab<sup>10</sup>. Higher and lower scores has been reported universally in different studies. Score based on DREEM as low as 102, 103, 100, and even 90 and higher scores of 130 and 132 have been reported by different investigators.<sup>6,7,9,11</sup>

In our study the sample was limited to the students of final year (MBBS). The reason for including final year students was that they had maximum exposure to the educational environment at the medical colleges.

It is pertinent to point out that the percentage of female students in our study is slightly higher than those reported from the medical institutions in Europe.<sup>4,5,8</sup> There was sharp rise in the number of female graduates in medical institutions after open merit policy system. Low score of perception of females as compared to male has also been reported in Saudi Arabia and Yemen.<sup>7</sup> This difference may be attributed to a change in local cultural and social trends. Although the present admission policy is safeguarding the females against gender discrimination so there is a more need to address the female students learning environment in our social cultural and religious perspective.

For SIMS, total mean score for different subscales ranged between 51.87 and 71.25%, indicating better educational environment. In this study, SIMS students rated only eight items as less than two, indicating far less environmental problems. There was more positive perception in general. Regarding the subscales the teaching was viewed positively while the teachers were moving in right direction. Academic self perception was also viewed positively.

SIMS is located in a metropolitan city of Punjab. The

equipped skills lab, computer lab etc make medical college building is purpose built. The college has its own hostels for male and females within the college campus. The college library grounds and different societies provide ample opportunities for co-curricular activities. Although the curriculum is traditional but there is enough teaching faculty both at basic and clinical health sciences. Better infrastructure and social facilities make college environment much better for teaching and learning. Due to its location in a metropolitan city, the health authorities and politicians pay more attention in providing better services. Facilities such as a well the college a better learning environment. There are a total of 18 medical colleges in the public sector of Punjab. These colleges carry almost similar population characteristics as they are under the administrative control of the Government of Punjab. Students in these medical colleges come from similar ethnic, social, cultural and educational background. The results from this study can be generalized to all public sectors medical colleges located in the province of Punjab.

Services Institute of Medical Sciences was purposely chosen as the college from the metropolitan city as the investigator is currently working in this college and it is easier to collect data from this college compared to other five public sector medical colleges located in the same city. All public sector medical colleges constitute a more or less homogenous population and almost similar educational environment due to similarities in administrative control and relatively homogenous student and teacher population.

Several DREEM items were identified as areas of concern based their low scoring. Item no 12, 15, 21, 32, 40, 48 represent issues related to teaching methodologies and attitude of teachers. Similarly item no 31 (I have learned a lot about empathy in my profession) was scored the lowest. It might be possible that the students don't interpret the item properly or had difficulty in putting the term empathy into their cultural perspective. It is therefore required to provide easy understandable

translation of some difficult terms to help the students to clearly apply them in their own individual setting.

The DREEM inventory can be used to identify strength and weakness of educational environment. Items scoring less than or equal to two might be due to traditional curriculum with content overload, authoritative attitude of teachers with the students, stressful environment and an unstructured assessment system. Moreover ineffective hidden curriculum also explains low scoring among the students regarding perceptions of atmosphere and social self perception. It also underlines the need for a careful ongoing evaluation of the learning environment.

The study provides useful information of the medical college to carefully review the findings and prepare strategies and action plans to improve the learning environment.

## Conclusion

This study showed the educational environment in a college located in a metropolitan area. A broad based study on DREEM criteria including all the medical colleges located in the remote and metropolitan areas of Punjab is required to extrapolate the results. In the light of the present study minimum educational standards can be developed for institutions either located in metropolitan or remote cities to ensure a healthy, positive and equitable environment. There is also a need to change the curriculum that is more responsive to the national needs of the community. For this standards should be devised regarding integration, student centered approach, community based and Problem based learning. Consideration may be given to faculty development and creation of non- threatening and congenial relationship between the teachers and students

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