

Original Article

Students Perception About the Educational Environment

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Abstract

Background: The educational environment is fundamental to effective student learning. It has been shown to significantly impact their attitudes and professional progress and is critical for personal and social well-being. The present survey was conducted among the dental students and interns of Chettinad Dental College and Research Institute to assess their perception about the educational environment in the institution.

Materials and Methods: A cross-sectional questionnaire survey employing convenience sampling was conducted among dental students and interns of Chettinad Dental College. The survey instrument used was Dundee Ready Education Environment Measure (DREEM). Collected forms filled with responses were entered in Microsoft Excel – 2010 and then subjected to statistical analysis using SPSS (Version 17).

Results: 262 students participated in the present study. Of the 50 items of DREEM inventory, 13 items were scored more than 3.0, 34 items were scored between 2.0 and 3.0 and 3 items were scored less than 2.0, Overall DREEM score among the dental students and interns is 136.09 ± 17.39 and there is a difference in mean DREEM score across years of study ($p < 0.05$) and no difference across gender in overall DREEM score ($p > 0.05$).

Conclusion: Chettinad Dental College and Research Institute had overall a positive environment; though the negative areas in the institution are minimal, there still exists large areas which require lots of improvement in all the subscales of DREEM.

Key Words: DREEM, Dental Students, Educational Environment

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Introduction

The educational environment is fundamental to effective student learning. It has been shown to significantly impact their attitudes and professional progress and is critical for personal and social well-being¹. A number of factors ranging from class size, leisure time, teaching methodologies and assessment procedures to relations with peers and faculty, ethical climate and extracurricular opportunities, may significantly influence student's perceptions and experiences².

Dental educators need to be sensitive and responsive to the concerns of dental students. It is the responsibility of all dental institutions to ensure that future dentists are being nurtured in a supportive and challenging environment that promotes learning in a positive way^{3,4}. Thus effective management of learning is aided by understanding the educational environment and introducing appropriate changes. The Dundee Ready Education Environment Measure (DREEM)⁵ is specific to the unique environment experienced by students in medical and healthcare related courses⁶. In India, there are 301 dental colleges and in the state of Tamil Nadu there are 29 dental colleges, Chettinad Dental College and Research Institute is one among them⁷ established in the year 2007, the college has an annual intake of 100 undergraduate dental students. It is essential to analyse

the student's and intern's perception regarding their educational environment, as it provides vital information for personal and institutional development. Hence the present survey was conducted among the dental students and interns of Chettinad Dental College and Research Institute to assess their perception about the educational environment in the institution.

Materials and Methods

A cross sectional descriptive study, employing convenience sampling method was conducted to assess their perception about the educational environment among the students and interns of Chettinad Dental College and Research Institute, Kelambakkam. The survey instrument used was Dundee Ready Education Environment Measure (DREEM)⁵ consists of 50 items answered on 5-point likert scale which are scored from 0 (strongly disagree) to 4 (strongly agree). Items with a mean score of 3 and above are considered positive and items with a mean score of 2 and below are considered as problem areas and items with a mean score between 2 and 3 are considered as aspects of the educational environment that require enhancement. DREEM has five subscales, the subscales are as follows:

- Students' perception of Learning (SPL) – 12 items with maximum score of 48

- Students' perception of Teachers (SPT) – 11 items with a maximum score of 44
- Students' Academic self-perception (SASP) – 8 items with a maximum score of 32
- Students' perception of Atmosphere (SPA) – 12 items with a maximum score of 48
- Students' Social self-perception (SSSP) – 7 items with maximum score of 28.

Prior to the start of the study approval was obtained from the college authorities and explanation was given to all the dental students and interns regarding the study and informed consent was obtained from the students who were willing to participate in the study, Students who were not willing to participate in the study were excluded.

Self – administered questionnaires were distributed to the students during the end of their academic year. Data collection was done for a period of 15 days, from 16th June 2014 to 30th June 2014 and the students were asked to go through the statements carefully and asked to 'tick' the appropriate answer of their choice. The filled questionnaires were collected by placing a collection box in the Department of Public Health Dentistry during the aforementioned time period.

Collected forms filled with responses were entered in Microsoft Excel – 2010 and then subjected to statistical analysis using SPSS (Version 17).

Frequency tables were computed and independent samples t-test and One way ANOVA is used for the

comparison of mean domain scores and DREEM score across gender and between year of study among dental students.

Results

A total of 395 students and interns were in the academic year 2013-14, among them 262 students and interns (response rate – 67%) participated in the present study. Fig 1 depicts the distribution of study subjects according to year of study and gender. Table 1 depicts the comparison of mean DREEM score across years of study, the following domains. Students perception of Learning (SPL), Students perception of Teachers (SPT), Students perception of Atmosphere (SPA) and Students Social self-perception (SSSP) of DREEM showed a significant difference across year of study and there has been a significant decrease in the overall DREEM score across year of study with first year students having the highest DREEM score (140.30 ± 16.69), second year students (138.79 ± 14.65), third year students (135.55 ± 14.74), final year students (135.09 ± 13.15) and interns (128.89 ± 27.40) having the lowest DREEM score.

Table 2 depicts the mean DREEM global and subscale score among the dental students and interns, for students perception of learning (SPL) 8 out of 12 items scored between 2.0 and 3.0, and 4 items scored more than 3.0 and the overall mean score for this domain was (34.35 ± 5.33) and there was no difference across gender.

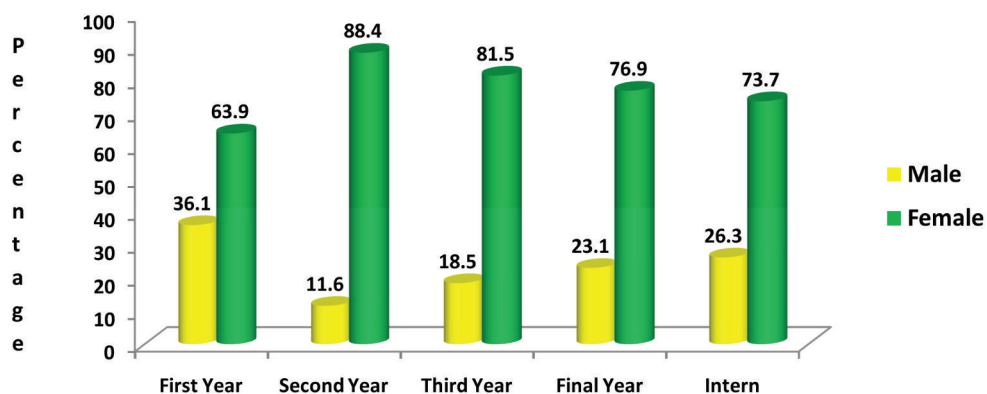


Fig 1: Depicts the distribution of study subjects according to year of study and gender

Domain	First Year*	Second Year*	Third Year*	Final Year*	Intern*	f	df	p-value
Students perception of Learning*	35.31 ± 5.22	34.95 ± 4.95	33.85 ± 5.00	34.60 ± 4.20	32.53 ± 7.51	1.951	271	0.102
Students perception of teachers*	29.54 ± 4.29	28.60 ± 2.92	30.08 ± 2.74	30.62 ± 2.35	28.18 ± 6.16	3.62		0.007
Students' academic self-perception*	22.90 ± 3.97	23.09 ± 4.63	22.63 ± 4.17	22.38 ± 3.30	21.11 ± 5.34	1.426		0.225
Students perceptions of atmosphere*	33.15 ± 5.54	33.09 ± 4.50	31.57 ± 4.50	29.66 ± 4.45	29.08 ± 7.63	6.145		0.000
Students social self-perceptions*	19.39 ± 3.09	19.05 ± 2.49	17.43 ± 2.94	17.83 ± 3.04	18.00 ± 4.17	4.156		0.003
Total DREEM score*	140.30 ± 16.69	138.79 ± 14.65	135.55 ± 14.74	135.09 ± 13.15	128.89 ± 27.40	2.927		0.021

Table 1: Comparison of mean DREEM score and domain scores across years of study

*One way ANOVA, ($p < 0.05$ – Statistically Significant)

In the domain on Students' perception of teachers (SPT) out of 11 items 5 were scored more than 3, 4 items were scored between 2.0 and 3.0 and 2 items were scored less than 2.0. The items, 'The teachers ridicule the students' and 'The students irritate the teachers' with negative score are scored less than two, comparison of mean scores across gender in this domain had showed a significant difference in score. For the following items 'The teachers are authoritarian' and 'The students irritate the teachers' ($p < 0.05$), the mean score domain was (29.59 ± 3.79).

In the domain of Students' academic self-perception (SASP) among the 8 items, 7 items were scored

between 2.0 and 3.0 and 1 item is scored above 3.0, there was no gender difference in individual item score and overall score for this domain, the mean overall score for this domain was (22.49 ± 4.21).

In the domain of Students' perception of atmosphere (SPA) among the 12 items, 9 items were scored between 2.0 and 3.0, 2 items were scored above 3.0 and 1 item 'I find the experience disappointing' (1.89 ± 1.01) was scored less than 2, there was a significant difference across gender in response to the following item, 'I am able to concentrate well' ($p < 0.05$) and the mean overall score for this domain was (31.36 ± 5.47).

Table 2: Mean DREEM global and subscale score among the dental students and interns

Q. No.	Question	Total (Mean \pm SD)	Male* (Mean \pm SD)	Female* (Mean \pm SD)	t-value	p-value
	Students Perception Of Learning	34.35 \pm 5.33	34.62 \pm 4.54	34.26 \pm 5.56	0.479	0.633
1	I am encouraged to participate in class	3.03 \pm 0.78	2.98 \pm 0.72	3.04 \pm 0.81	0.479	0.633
7	The teaching is often stimulating	2.89 \pm 0.88	2.98 \pm 0.76	2.87 \pm 0.90	0.95	0.343
13	The teaching is student-centered	2.88 \pm 0.84	2.91 \pm 0.76	2.88 \pm 0.88	0.259	0.796
16	The teaching is sufficiently concerned to develop my competence	2.98 \pm 0.85	3.00 \pm 0.81	2.97 \pm 0.86	0.237	0.813
20	The teaching is well focused	3.16 \pm 0.77	3.30 \pm 0.60	3.12 \pm 0.80	1.657	0.099
22	The teaching is sufficiently concerned to develop my confidence*	3.02 \pm 0.83	3.05 \pm 0.82	3.01 \pm 0.84	0.31	0.757
24	The teaching time is put to good use	3.10 \pm 0.77	3.08 \pm 0.86	3.11 \pm 0.74	0.294	0.769
25	The teaching over- emphasized factual learning*	2.65 \pm 0.82	2.67 \pm 0.92	2.65 \pm 0.79	0.194	0.846
38	I am clear about the learning objectives of the course	2.90 \pm 0.89	2.81 \pm 0.95	2.93 \pm 0.87	0.215	0.347
44	The teaching encourages me to be an active learner	2.93 \pm 0.83	2.84 \pm 0.89	2.96 \pm 0.82	0.107	0.327
47	Long term learning is emphasized over the short term	2.72 \pm 0.87	2.83 \pm 0.91	2.68 \pm 0.86	0.978	0.245
48	The teaching is too teacher-centred*	2.08 \pm 1.01	2.17 \pm 1.07	2.05 \pm 1.00	0.284	0.396
	Students' perception of teachers	29.59 \pm 3.79	30.03 \pm 3.49	29.45 \pm 3.88	1.068	0.286
2	The teachers are knowledgeable	3.53 \pm 0.61	3.52 \pm 0.59	3.53 \pm 0.621	0.205	0.837
6	The teachers are patient with patients	3.16 \pm 0.80	3.06 \pm 0.87	3.19 \pm 0.78	1.131	0.259
8	The teachers ridicule the students*	1.74 \pm 1.11	1.92 \pm 1.17	1.68 \pm 1.09	1.53	0.127
9	The teachers are authoritarian*	2.43 \pm 0.96	2.69 \pm 0.90	2.35 \pm 0.97	2.451	0.015*
18	The teachers have good communication skills with patients	3.11 \pm 0.83	3.22 \pm 0.78	3.08 \pm 0.84	1.19	0.235
29	The teachers are good at providing feedback to students	2.83 \pm 0.82	2.72 \pm 0.89	2.87 \pm 0.80	1.28	0.201
32	The teachers provide constructive criticism here	2.47 \pm 0.95	2.53 \pm 0.85	2.45 \pm 0.98	0.615	0.539
37	The teachers give clear examples	3.03 \pm 0.79	2.98 \pm 0.78	3.05 \pm 0.80	0.558	0.578
39	The teachers get angry in class*	2.13 \pm 1.08	2.14 \pm 1.02	2.13 \pm 1.10	0.07	0.944
40	The teachers are well prepared for their classes	3.17 \pm 0.85	2.98 \pm 0.86	3.22 \pm 0.85	1.94	0.053
50	The students irritate the teachers*	1.99 \pm 1.14	2.27 \pm 1.12	1.90 \pm 1.14	2.221	0.027*
	Students' academic self-perception	22.49 \pm 4.21	22.22 \pm 3.75	22.58 \pm 4.35	0.593	0.553
5	Learning strategies which worked for me before continue to work for me now	2.46 \pm 1.01	2.28 \pm 0.98	2.51 \pm 1.07	1.617	0.107
10	I am confident about passing this year	3.24 \pm 0.85	3.22 \pm 0.76	3.25 \pm 0.88	0.216	0.829
21	I feel I am being well prepared for my profession	2.99 \pm 0.88	3.03 \pm 0.85	2.97 \pm 0.89	0.475	0.635
26	Last year's work has been a good preparation for this year's work	2.90 \pm 0.82	2.77 \pm 0.85	2.95 \pm 0.81	1.538	0.125
27	I am able to memorize all I need *	2.34 \pm 0.98	2.33 \pm 1.00	2.34 \pm 0.98	0.093	0.926
31	I have learned a lot about empathy in my profession	2.83 \pm 0.80	2.89 \pm 0.85	2.81 \pm 0.78	0.72	0.471
41	My problem-solving skills are being well developed here	2.76 \pm 0.87	2.77 \pm 0.88	2.76 \pm 0.87	0.048	0.962
45	Much of what I have to learn seems relevant to a career in medicine	2.98 \pm 0.80	2.94 \pm 0.81	2.99 \pm 0.80	0.459	0.647
	Students' perception of atmosphere	31.36 \pm 5.47	30.91 \pm 5.39	31.50 \pm 5.50	0.758	0.449
11	The atmosphere is relaxed during the ward teaching	2.35 \pm 1.03	2.45 \pm 1.15	2.32 \pm 1.00	0.882	0.378
12	This school is well timetabled	3.01 \pm 0.93	3.05 \pm 0.98	3.00 \pm 0.92	0.35	0.727
17	Cheating is a problem in this school *	2.19 \pm 1.22	2.23 \pm 1.17	2.18 \pm 1.23	0.323	0.747
23	The atmosphere is relaxed during lectures	3.05 \pm 0.90	3.03 \pm 0.81	3.05 \pm 0.93	0.167	0.868
30	There are opportunities for me to develop interpersonal skills	2.81 \pm 0.94	2.72 \pm 0.95	2.84 \pm 0.94	0.86	0.386
33	I feel comfortable in the class socially	2.99 \pm 0.71	2.94 \pm 0.66	3.00 \pm 0.73	0.657	0.512
34	The atmosphere is relaxed during seminars /tutorials	2.67 \pm 0.98	2.61 \pm 0.91	2.68 \pm 1.0	0.522	0.6
35	I find the experience disappointing	1.89 \pm 1.01	1.95 \pm 1.03	1.87 \pm 1.01	0.604	0.547
36	I am able to concentrate well	2.70 \pm 0.94	2.44 \pm 1.06	2.78 \pm 0.88	2.596	0.01*
42	The enjoyment outweighs the stress of studying medicine	2.33 \pm 1.15	2.22 \pm 1.26	2.37 \pm 1.11	0.892	0.373
43	The atmosphere motivates me as a learner	2.73 \pm 0.86	2.66 \pm 0.84	2.75 \pm 0.86	0.799	0.425
49	I feel able to ask the questions I want	2.64 \pm 1.02	2.61 \pm 1.19	2.65 \pm 0.97	0.303	0.762

*Independent samples t-test, ($p < 0.05$ – Statistically significant)

In the domain of Students' social self-perception (SSSP) among the 7 items, 6 items were scored between 2.0 and 3.0 and 1 item was scored above 3.0. There was a significant difference across gender in response to the following item, 'There is a good support system for students who get stressed' ($p < 0.05$) and the mean overall score for this domain was (18.30 ± 3.21). Of the 50 items of DREEM inventory, 13 items were scored more than 3.0, 34 items were scored between 2.0 and 3.0 and 3 items were scored less than 2.0. Overall DREEM score among the dental students and interns is 136.09 ± 17.39 and there was no difference across gender in overall DREEM score ($p > 0.05$).

Discussion

This survey conducted using DREEM questionnaire provided an overview about the educational environment prevailing at Chettinad Dental College and Research Institute. The overall mean DREEM score was (136.09 ± 17.39) higher than the studies conducted by Betsy Sara Thomas et al (2009) at Manipal, India, where the mean score was 116 ± 0.91 for first year and 114 ± 1.12 for final year students⁸, Kamran Ali et al (2012) among dental schools in Pakistan⁹, Ostapczuk MS et al (2012) in Germany¹⁰ and Hafiza Arzuman et al (2010) in Malaysia¹¹. In the present study, the scores for all 5 DREEM subscales reflected positive perception on the institution by the students. The scores also indicated certain areas which needs further improvement in the educational environment similar to the previous studies^{8,9,10,11}.

There were 3 DREEM items that scored 2 or less. In the domain of students perception of teachers, the following negative items were scored less than 2, they are, 'the teachers ridicule the students' & 'the students irritate the teachers', the findings are consistent with the study conducted by Arzuman et al (2010) in Malaysia¹¹. Teaching in Chettinad is student-centered with periodic interaction between staff, students and parents to resolve any academic issues. In the domain of 'Students perception of atmosphere', the negative item, 'I find the experience disappointing' was scored less than 2, this was in contrary to the response to other questions in the domain which shows that the students perception about the atmosphere in the institution to be more positive and all the other items are scored more than 2.

In the present study, the institution had a student-centred teaching environment, the students were encouraged to actively participate in the class, the teaching is often simulating with emphasis on long-term learning and there is overall positive perception of learning by the students. In the domain of 'Students academic self-perception', the response to the following statement 'I am confident about passing this year' was scored higher than the study conducted by Arzuman et al (2010) in Malaysia¹¹, this is attributed to the overall positive perception of learning, perception of teachers and atmosphere prevailing in the institution.

Conclusion

The results of the present study concluded that Chettinad Dental College and Research Institute had overall a positive environment, though the

negative areas in the institution were minimal; there still exists large areas which require lots of improvement in all the subscales of DREEM.

Authors declare no conflict of interest.

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