

Original Research Article

Attitude of undergraduate medical students towards teaching learning process during their course in a teaching hospital of South Kerala

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ABSTRACT

Background: Student's perception of the learning environment where they study has shown significant impact on their behavior level and academic level. The aim of the study was to find out the student's perception of their learning environment in an Indian medical school of South Kerala and to study differences in perceptions between years of study, gender.

Methods: In this study we used the Dundee Ready Education Environment Measure (DREEM) inventory which was administered to undergraduate medical students of first (N=100), second (N=92), third (N=62) and fourth years (N=75) of Travancore Medical College, Kollam. Scores obtained were expressed as mean±standard deviation (SD) and analyzed using one-way ANOVA and post hoc test was used.

Results: A total of 400 students were studying in our medical college. Among them 330 students became participants of the study. Males comprised of 116 (35.2%) and females 214 (64.8%). Students less than 21 years was 200 (60.6%) and above 21 years 130 (39.4%). Final year MBBS students scored well when compared with the first years and second years. Post hoc analysis also showed same results. Significant relation between Student's Perception of Learning, SPoT (value=0.001); Student's Academic Self-Perception, SPoA (p value=0.022), SPoA (p value=0.010); and SSSP (p value=0.016) between batches has been observed. There was significant difference between males and females in the perception of atmosphere and was found to be statically significant.

Conclusions: In this study the student's perceptions of educational environment showed that the student's enthusiasm improved as they move across years and was statically found to be significant. In the sub category student's perception on atmosphere there was significant difference between males and females and it was statically found to be significant (p value less than 0.05).

Keywords: Teaching learning, DREEMS, Medical education, Student's perception

INTRODUCTION

Educational environment plays a very important role in effective learning process of a medical student. Medical education is highly demanding and stressful. Students and doctors need to develop wide skills and aptitudes to meet demands of community and the profession.¹ Students perceptions influence both 'hard' (academic achievement) and 'soft' (satisfaction and development of key skills) learning outcomes, both directly and mediated through their approaches to study.¹ Perceptions of heavy workload

and inappropriate assessment have influenced students towards surface, and perceptions of good teaching towards deep approaches to study.

Students perceptions of their current learning environment were a stronger predictor of learning outcomes at university than prior achievement at school. Educational environment studies have shown that there is a high price to be paid for dysfunctional and malfunctioning learning environments.² It is important to know the attitude of the medical student in the first year of medical education. In

many studies it has seen that medical students lose interest after their first year of MBBS. This points out the fact that there is some problem which is prevailing in our curriculum which makes a 'GAP' between the learner, the teacher and the curriculum. It's high time we need to address this situation at the first year itself and bring about a new change in attitude of student. This project aims to understand the changes occurring among the students about the teaching learning process and to find out the reasons for the same.

Students' perception of the educational environment can create great effects on their responses to learning processes. The Dundee Ready Education Environment Measure (DREEM) is an instrument designed for measurement of educational climate specifically for undergraduate medical education (Roff, 1997). DREEM questionnaire have been used to compare different medical schools or faculty (Roff et al, 2001; Hazimi et al, 2004).²

Studies related to educational environment dated back to 1970s. In 1970, Arnold Rothman and colleagues from University of Toronto studied about Learning Environment Questionnaire (LEQ). It consisted of 65 questions with scales for goal direction, academic enthusiasm, internal and external pressures on students, student interaction and authoritarianism in the medical school. After 8 years later of this research Marshall adapted over half of Rothman's 55 items in the Medical School Learning Environment Survey (MSLES). And finally, in 1990s DREEM questionnaire was introduced.

Objectives

The objectives of this study were (a) to find out the perception of medical students towards teaching learning process using the DREEM questionnaire; and (b) to find out the differences in perception of various batches of medical students (first year to final year) towards teaching learning process.

METHODS

Study design

The study design was a cross sectional study.

Study setting

The study was carried out at Travancore Medical College, Kollam.

Study population

All MBBS students of Travancore Medical College, Kollam was the study population.

Study period

The study period was 1st May to 31st August 2018.

Sample size

All MBBS students presently studying in Travancore Medical College were study participants (2014 to 2017) batch. All students present on the day of data collection was taken as my study participants. A total of 400 students were part of the study (intake of students each year is 100), hence taking 4 batches sample size will be 400. On the day of data collection only 330 students were available. Hence, 330 students became our study sample.

Sampling method

The sampling method was convenient sampling.

Inclusion criteria

First to fourth year MBBS students who were willing to participate after getting an informed consent were included as study participants.

Exclusion criteria

Students who were absent on the days of data collection and those who were not willing to participate in the study were excluded.

Study tool

Structured questionnaire based on DREEM questionnaire was administered to the participants which they filled themselves. DREEM questionnaire was available on payment.

Instrument for data collection

The DREEM questionnaire, a generic, highly reliable and diagnostic inventory, was used for collection of data as a measure of students perceptions about the educational environment. DREEM is a valid tool in referring the deficient areas in learning process and it was developed by an international Delphi panel. This inventory was developed using input from 80 international medical educators who visited Dundee from 1995-1997.^{3,4}

DREEM is a 50-items inventory, consisting of 5 subscales as- (a) Student's Perceptions of Learning (SPL)- 12 items; maximum score is 48; (b) Student's Perceptions of Teachers (SPT)- 11 items; maximum score is 44; (c) Student's Academic Self-Perceptions (SASP)- 8 items; maximum score is 32; (d) Student's Perceptions of Atmosphere (SPOA)- 12 items; maximum score is 48; and (e) Student's Social Self-Perceptions (SSSP)- 7 items; maximum score is 28.

DREEM contains 50 statements relating to a range of topics directly relevant to education climate. Items were scored as follows: 4 for strongly agree (SA), 3 for agree (A), 2 for uncertain (U) and 1 for disagree (D) and 0 for strongly disagree (SD). However, 9 of the 50 items

(number 4, 8, 9, 17, 25, 35, 39, 48 and 50) are negatively phrased statements and scored 0 for SA, 1 for A, 2 for U, 3 for D and 4 for SD. The 50-items DREEM has a maximum score of 200, indicating the ideal educational environment.

For analysing overall score, the following guidelines are followed: 0-50: very poor, 51-100: plenty of problems, 101-150: more positive than negative, 151-200: excellent.

McAleer and Roff (18) described the items with an average score of ≥ 3.50 are considered to be 'educational aspects of excellence'; those between 3.01 and 3.49 are considered to be 'positive educational aspects'; those with average values between 2.01 and 3.00 are considered to be 'educational aspects that could be improved'; those ≤ 2.00 are defined as 'educational problematic areas'. Items with score less than 2.0 should be analyzed carefully. For analyzing overall score, the following guidelines are followed: 0-50: very poor, 51-100: plenty of problems, 101-150: more positive than negative, 151-200: excellent.

Statistical analysis

Data obtained was entered into Microsoft excel sheet and was analysed using SPSS package. Whole 50 item inventory, scores for categorized domains and each item was analysed using frequencies, ANOVA and post-hoc tests were used. Variables like age and sex were analysed by independent t test.

Ethical clearance was taken from our institution before the conduct of the study. Informed consent was taken from all students before conducting the study

RESULTS

A total of 330 students were involved as study participants from the total of 400 students from various years of admission such as 2014 (final year), 2015 (third year),

2016 (second year) and 2017 (first year). Among the 330 students, males comprised of 116 (35.2%) and females 214 (64.8%). Students less than 21 years is 200 (60.6%) and above 21 years 130 (39.4%).

The mean DREEM analysis showed a positive score of 111/200 in this study. Final year students have scored well followed by third years in most of the sub-categories when compared to second and first years, which means the level of satisfaction of teaching learning environment is better for the final years compared to others. Highest score among the sub- categories was for the- Students' Perception of Learning (SPoL) (27.34) followed by Students' Perception of Teachers SPoT) (25.54), Students' Academic Self-Perception (SPOA) (19.06), Students' Academic self- perception (SASP) (17.02), Students' Social Self-Perception, (SSSP) (11.81).

Table 1: Showing the age distribution of the study participants.

Age group (years)	Frequency	Percentage (%)
<21	200	60.6
>21	130	39.4
Total	330	100.0

Table 2: Showing the gender distribution of the study participants.

Gender	Frequency	Percentage (%)
Male	116	35.2
Female	214	64.8
Total	330	100.0

In Table 3, SPoL and SPoT was highest for the final years followed by third year students. SASP was highest for the third years followed by second years and final years.

SSSP was highest for the final years. SPOA was highest for final years followed by second years.

Table 3: Mean score (SD) of students from various years.

Domains	First year	Second year	Third year	Fourth year
Students Perception of Learning (SPoL)	26.43 (7.9)	28.47 (6.5)	27.11 (8.2)	27.33 (7.2)
Students' Perception of Teachers (SPoT)	23.81 (6.7)	27.71 (4.9)	25.69 (6.1)	25.3 (4.5)
Students' Academic Self-Perception (SASP)	15.50 (6.9)	17.68 (5.8)	18.19 (5.7)	17.28 (5.2)
Students' Perception of Atmosphere (SPOA)	17.52 (6.6)	19.53 (5.1)	19.87 (5.4)	19.88 (4.0)
Students' Social Self-Perception (SSSP)	11.19 (6.2)	11.94 (6.4)	10.48 (6.3)	13.57 (5.0)
Total DREEM score for the group	94.45	105.15	101.34	103.36

DISCUSSION

The results show that mean DREEM score was 111/200 and this shows a positive educational environment in the educational institution under study. In a study done in Manipal University they got a mean score of 123/200.⁵ In another study from Belgaum (Karnataka) analysed 914 students using DREEM questionnaire. The mean overall

DREEM score was around 120.21. Male students were having more positive perceptions than female students, and post-graduate students compared to under-graduate students.⁶ Globally the DREEM scores for medical colleges in Sri Lanka 108/200, Nigeria 118/200 and Trinidad 109.9 were lower than our score.⁷⁻⁹ However, the scores for medical schools in Nepal (130/200) and UK was (139/200) were higher when compared to the Indian

students.^{10,11} In the few studies among dental students which reported a DREEM score, a multi-centric study from Pakistan reported an overall score of 115.06.¹² In another study done among 117 undergraduate students in Kuwait medical colleges, the mean score was 108.7.¹³ In another study done in Hyderabad the DREEM score was 125.24/200¹⁴. Another study from India, which was done among medical students of a private university in Mysore, gave an average score of almost 120 for final year medical students and interns.¹⁵ In another study reported from Manipal, India also showed a positive educational environment among students pursuing study in medicine.⁵ In most of the studies done in India first year MBBS students scored well compared to the third year and final years but contrast to this in our study final year students scored well in most of the categories when compared to first years. In a study done in Kottayam district of Kerala among Dental students also DREEM score was positive (111.14). The maximum score was obtained for 3rd year students.¹⁶

In our study the students scored highest marks for the questions (>3), for question Q4, Q29, Q37, Q40 whereas the least scores were obtained for Q48, Q11, Q34, Q4, Q14, Q19, Q28, Q24, Q42 (<2). This clearly explains the GAP. The students are happy with the teachers, but they scores if we look through we will understand that SPoA was failed in the learning environment of the student which needs to be improved. The questions which scored less than 2, students did not feel the learning atmosphere is relaxed (Q11), students did not feel relaxed during the ward teaching (Q34), social life was good (Q19), seldom feel lonely (Q28), students did not feel teaching time was put into good work, student presume the enjoyment overweighs stress of the course (Q48).

Limitations

DREEM study should be done as a cohort study from first year itself and then a follow up can be done in the subsequent years. so the change in the perception can be clearly understood.

In the present study only 330 students (400) were taken into study because of time constraints. Another limitation of the study was that the first-year students were having model examinations and it could have hampered the results. Stress would have acted as confounder.

CONCLUSION

Common factors like stress, lack of relaxation in the learning environment impairs learning. From this study we can conclude its high time for the change in our curriculum. Students of final year are most interested in learning when compared to the first-year students. This may be because of learning through seeing and doing. Clinics start only in our second year, this may be the reason why first-year lack interest. Integrated teaching has to be implemented in our curriculum soon to improve our

environment in our medical schools. Our traditional teaching method also should be changed. In most of the studies done in India first year MBBS students scored well compared to the third year and final years but contrast to this in our study final year students scored well in most of the categories when compared to first years. Hence, we would recommend to apply DREEMS questionnaire for all newly joined MBBS students followed by the study in other years (cohort study), so that the change in perception and why the change happened can be found out. This data in turn can become the foundation for the change in teaching in our medical schools.

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