

DREEM: (Dundee Ready Educational Environment Measure) To Assess the Educational Environment in a Government Medical College in Dehradun.

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Abstract

Introduction

Several studies have found that students who are highly motivated and study in colleges with constructive institutional profile, valued and high quality teaching staff experience healthy educational environment. Globally, the perceptions of students in medical colleges have been evaluated to understand the educational environment. The present study was conducted to assess students' perceptions regarding the educational environment of GDMC, Dehradun, Uttarakhand.

Methodology

A cross sectional study was conducted in GDMC, Dehradun, Uttarakhand in 2018 among 134 students enrolled in MBBS curriculum through purposive sampling technique. The DREEM tool was used to assess the students' perception towards the educational environment of the college. Roff et al in 1977 designed DREEM to measure the educational environment in the medical colleges and other health programs. This is a closed question questionnaire having 50 questions which has 5 sub domains Likert scale. The responses were marked and analyzed.

Results

In the present study the Male to female ratio was found to be 3:1. 86 (64.17%) participants had positive perception regarding educational environment. Only 7.6% of the students agreed that there is a good support system for students who get stressed. 48.5% of the students disagreed of learning about the way scientific research is carried out. 57.6% of the students believed that teachers are knowledgeable.

Conclusion

This study was vital in highlighting areas of improvement in medical education system of GDMC, Dehradun. Few recommendations which merge out of this present study are developing students' support system, helping students to memorize and conceptualise the facts, and incorporate concentration exercises for memory and developing research acumen among medical students.

Key words

Dreem, Educational environment, Medical College, Undergraduate medical students.

Introduction

The educational environments experienced by students in the colleges are proven to be impactful in their studies, well being and achievements [1]. Studies found that students who are highly motivated and study in colleges with constructive institutional profile, valued and high quality teaching staff experience healthy educational

environment [2]. Thus, understanding the educational environment is of much importance which may initiate quality assurance and improvements in programs³. Many studies have assessed the educational environment among students in medical colleges, including all the level from 1st year to the final year[4]. For measuring and scoring the complexities of educational environment various study tools have been used in past such as questionnaires and qualitative designs [5-7].

A systematic review found that most commonly used among all is DREEM (Dundee Ready Educational Environment Measure) [8]. Roff et al in 1977 designed DREEM to measure the educational environment in the medical colleges and other health programs[7]. Globally, the perceptions of students in medical colleges have been

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evaluated to understand the educational environment. A study was done in Australia using DREEM questionnaire for all year levels of the osteopathy students and it revealed that medical program was giving great results but also highlighted those aspects which needed improvement [9] and promote good environment for the students to study. A similar study done in turkey showed positive environment for medical student with some areas of medical education needing betterment [10] also, a study conducted in Pakistan among nursing students and medical students using the same questionnaire revealed that education environment was perceived much better by the nursing students than medical students [11].

A cross sectional study done in medical college of India among 348 medical students reported that college possessed knowledgeable teachers. They enjoyed having good friends and developed confidence that they will pass in the exam. Most critiqued items were lack of support system in the college for the students undergoing stress, vast syllabus leading to difficulty in memorizing and focusing more on factual things [12]. In India, medical colleges of Delhi and Mumbai revealed positive results also pointing out the challenges [14,15]. Such studies have not been conducted in any medical college of Uttarakhand. Thus, understanding the educational environment of the medical college of Uttarakhand is of prime importance.

This study was conducted in Government Doon medical college (GDMC), Dehradun, Uttarakhand. The Government Doon medical college is a new institution completing its three years and to understand the education environment through students' perception will help in finding the key challenges and help strengthening the areas that needs innovation.

The current study aimed to assess students' perceptions regarding the educational environment of GDMC, Dehradun, Uttarakhand.

Materials and Methods

Study Area

Government Doon Medical College (GDMC), Dehradun. GDMC is the only Government medical college in Dehradun. It has started MBBS course in 2016. Currently, the college is running 3rd batch of MBBS students. Total batch strength in one year is 150.

Study Design: Cross Sectional Study.

Study tool: DREEM questionnaire. This is a closed ended questionnaire having 50 questions which has 5 sub domains Likert scale. The DREEM scale consists of maximum score 200, 0-50 implying very poor learning environment, 51-100 implying plenty of problems, 101-

150 implying more positive than negative, and 151-200 implying an excellent learning environment, as perceived by students [13]. The DREEM tool will be used to understand the education environment of the college through students' perceptions and opinions. DREEM is closed question questionnaire having 50 questions, consisting five sub-domains namely, Students' perception of learning (12 items); Students' perceptions of teachers (11 items); Students' academic self-perceptions (8 items); Students' perceptions of atmosphere (12 items) and Students' social self-perceptions (7 items). This is then scored in 5 points and scoring these points individually. The student who strongly agrees gets 4 point and who strongly disagree gets a zero. The reverse coding is used in order to assure the most positive answers get the high score [1]. The DREEM has a maximum score of 200, 0-50 indicating a very poor learning environment, 51-100 indicating plenty of problems, 101-150 indicating more positive than negative, and 151-200 indicative of an excellent learning environment, as perceived by students.

Sample Size and Sampling Technique

150 students are currently in each batch. There are 3 batches of MBBS students making 450 students in sampling frame. 134 students were enrolled in this study using convenient sampling technique. The students who were posted in community medicine department during their course were included in the study. The study includes 4th semester and 6th semester students. There were two batches from 4th semester that involved 48 students and three batches from 6th semester involving 86 students who responded to the questionnaire.

Results

I. Educational, gender profile and overall Dreem Score of the study participants

35.8% of the respondents were from 4th semester while 64.2% of the respondents were from 6th semester. Male is to female ratio was 3:1. 86 (64.17%) participants had more positive perception than negative regarding educational environment while, one third of the students perceived plenty of problems in their educational environment given in following Table 1.

II. Students' perception of learning/teaching

More than half (51.5%) of the students agreed about encouragement in class participation while, only 24.2% believed that teaching is student centric. The neutral responses ranged from 51.6% to 27.9%. 43.1% of the participants were clear about the learning objectives and believed that long term earning is preferred over short term

learning. 36.4% of the participants believed that teaching is stimulating. Only 15.6% of the students thought teaching to be teacher centric. The perception is explained in following Table 2.

Table 1

Parameter	Options	Response, N=134 Number (%)
Semester	4 th	48(35.8)
	6 th	86(64.2)
Gender	Male	34(25.3)
	Female	100(74.7)
Score (Out of 200)	Interpretation	No.
0-50	Poor	2(1.49)
51-100	Plenty of problems	46(34.32)
101-150	Positive > negative	86(64.17)
151-200	Excellent	0

III. Students' perception of teachers

Table 3 shows student's perception of teachers. 57.6% of the students believed that teachers are knowledgeable. Similarly, 48.5% of the students think that teachers are well prepared for the class and teachers develop their practical skills. About 19.7-40.9% of the respondents were neutral about their perception regarding teachers. Only 9.2% of the students believed that teachers get angry in class. However, 38.1% of the students believed that

teachers are authoritarian and 35.4% of the students agreed that students irritate teachers.

VI. Students' academic self-perceptions

The section shows regarding students' academic self-perception. 42.2% of the participants felt that whatever they have studied is relevant to biological career, while 39.4% agreed on last year's work as a good preparation of this year's work. About one fourth of the students agreed on being confident about passing this year. However, only 9.1 % of the students could memorize all they need. About half of the students disagreed of learning about way scientific research is carried out. The information is given in the Table 4 below.

V. Students' perception of atmosphere

This part shows about the perception of students regarding atmosphere. More than half of the participants agreed that atmosphere is relaxed during laboratory/ practical/ fieldwork classes, 43.1% were socially comfortable in class and 36.4% of the students agreed that course is well time tabled. Only 10.8% of the students agreed on being able to concentrate well while around half of the students disagreed that the enjoyment outweighs the stress of the course. The following Table 5 is given below.

Table 2

SI. No.	Question	Response (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	I am encouraged to participate in class	9.1	6.1	31.8	51.5	1.5
2.	The teaching is often stimulating	7.6	18.2	37.9	36.4	0
3.	The teaching is student centered	13.6	27.3	34.8	24.2	0
4.	The teaching helps to develop my competence	9.2	18.5	36.9	35.4	0
5.	The teaching is well focused	6.1	25.8	37.9	28.8	1.5
6.	The teaching helps to develop my confidence	12.1	27.3	27.3	30.3	3
7.	The teaching time is put to good use	15.4	21.5	29.2	30.8	3.1
8.	The teaching over-emphasizes factual learning	4.5	21.2	32.8	34.8	7.6
9.	I am clear about the learning objectives of the course	6.2	15.4	35.4	43.1	0
10.	The teaching encourages me to be an active learner	18.8	20.3	31.3	26.6	3.1
11.	Long term learning is emphasized over short term learning	6.2	15.4	35.4	43.1	0
12.	The teaching is too teacher centered	3.1	21.9	51.6	15.6	7.8

Table 3

Sl. No.	Question	Response No. (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The teachers are knowledgeable	1.5	4.5	19.7	57.6	16.7
2.	The teachers deliver research-led teaching	9.1	25.8	40.9	24.2	0
3.	The teachers ridicule the students	7.7	33.8	36.9	20	1.5
4.	The teachers are authoritarian	4.8	12.7	34.9	38.1	9.5
5.	The teachers help me to develop my practical skills	13.6	15.2	21.2	48.5	1.5
6.	The teachers are good at providing feedback to students	10.8	23.1	35.4	27.7	3.1
7.	The teachers provide constructive criticism here	7.7	23.1	36.9	27.7	4.6
8.	The teachers give clear examples	6.2	15.4	35.4	40	3.1
9.	The teachers get angry in class	7.7	15.4	47.7	9.2	20
10.	The teachers are well prepared for their classes	13.6	15.2	21.2	48.5	1.5
11.	The students irritate the teachers	1.5	12.3	36.9	35.4	13.8

Table 4

Sl. No.	Question	Response No. (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	Learning strategies which worked for me before continue to work for me now	9.1	30.3	24.2	30.3	6.1
2.	I am confident about passing this year	6.2	10.8	46.2	23.1	13.8
3.	I feel I am being well prepared for my career	13.6	33.3	25.8	25.8	1.5
4.	Last year's work has been a good preparation for this year's work	4.5	7.6	47	39.4	1.5
5.	I am able to memorize all I need	21.2	40.9	27.3	9.1	1.5
6.	I have learned a lot about the way scientific research is carried out	28.8	19.7	30.3	18.2	3
7.	My problem-solving skills are being well developed here	9.2	21.5	50.8	18.5	0
8.	Much of what I have to learn seems relevant to a career in biological sciences	3.1	10.9	34.4	42.2	9.4

Table 5

Sl. No.	Question	Response No. (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	The atmosphere is relaxed during laboratory/ practical/ field work classes	10.6	13.6	19.7	51.5	4.5
2.	The course is well timetabled	19.7	22.7	21.2	36.4	0
3.	Cheating is a problem in this faculty	4.6	33.8	43.1	13.8	4.6
4.	The atmosphere is relaxed during lectures	10.6	22.7	34.8	28.8	3
5.	There are opportunities for me to develop my interpersonal skills	16.9	23.1	24.6	32.3	3.1
6.	I feel comfortable in class socially	10.8	13.8	29.2	43.1	3.1
7.	The atmosphere is relaxed during seminars/tutorials	15.4	7.7	38.5	35.4	3.1
8.	I find the experience disappointing	7.7	32.3	30.8	21.5	7.7
9.	I am able to concentrate well	13.8	20	55.4	10.8	0
10.	The enjoyment outweighs the stress of the course	15.4	33.8	24.6	16.9	9.2
11.	The atmosphere motivates me as a learner	16.9	26.2	36.9	18.5	1.5
12.	I feel able to ask the questions I want	21.5	23.1	32.3	18.5	4.6

Table 6

Sl. No.	Question	Response No. (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	There is a good support system for students who get stressed	25.8	31.8	33.3	7.6	1.5
2.	I am too tired to enjoy the course	15.2	27.3	31.8	21.2	4.5
3.	I am rarely bored on this course	24.2	37.9	21.2	15.2	1.5
4.	I have good friends in this faculty	18.2	28.8	31.8	21.2	0
5.	My social life is good	7.6	15.2	28.8	45.5	3
6.	I seldom feel lonely	18.2	27.3	12.1	18.2	13.6
7.	My accommodation is pleasant	4.7	12.5	28.1	46.9	7.8

VI. Students' social self-perceptions

This section shows student's social self-perception. 46.9% of the participants agreed that their accommodation is pleasant and 45.5 % felt that their social life is good. However 21.2% of the

students believed that they are too tired to enjoy the course. Moreover, only 7.6% of the students agreed that there is a good support system for students who get stressed. The following Table 6 shows students social self-perceptions.

Discussion

The Dreem questionnaire was developed to evaluate the educational environment especially among undergraduate medical students and has been recommended as the most suitable tool for it. It has been translated into 8 different languages and used in 20 countries. However, the method and reporting of data has remained inconsistent in different studies. The present study revealed that one third of the students had score between (51-100) implying plenty of problems and 2/3rd of the participants had score between 101-150 implying more positive than negative in their educational environment.

More than half of the participants agreed on encouragement for participation in class, teachers are knowledgeable. More than 40% students believe that their social life is good and accommodation is pleasant, they feel comfortable in class socially, learning seems relevant to a career in biological sciences, they are clear about the learning objectives of the course and feel that long term learning is emphasized over short term learning. Among negative findings, lack of support system for those students who are stressed, inability to memorize all that is needed, inability to concentrate well were such findings that were found to be consistent with the another study in India [13-15].

Conclusion

The findings of this study from GDMC have revealed major loopholes to be corrected in educational system of medical colleges in Uttarakhand. Few recommendations which merge out of this are developing student's support system, helping students memorize and conceptualise the facts, and incorporate concentration exercises for memory and developing research acumen among medical students.

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