Original Article
Perceptions of undergraduate medical students regarding the Educational Environment: A Baseline study.”

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ABSTRACT

Introduction: Perception regarding the educational environment in an institute is related to various factors like motivation, satisfaction, and effective learning of medical students.

Objective: To determine undergraduate medical students' perceptions from first to final year class regarding educational environment in their institute.

Methods: Descriptive cross-sectional study conducted at a private Medical and Dental College in Lahore; during the time period of July 19-Oct 19. A sample of 375 was taken, equally divided among all five classes, and across gender & Purposive sampling was applied. The data collection instrument was DREEM Questionnaire. Socio-demographic and variables of DREEM were included in the study.

Results: 163 male and 203 female students participated. DREEM total mean score was 118.44 ± 19.41; and 299(81.7%) had responded it to be more positive than negative. Independent sample t-test found significant P-value <0.05 with gender & residential status for total as well as subunit domains of DREEM. One-way ANOVA again showed significant P-values <0.05 for total as well as subunit domains of DREEM.

Conclusion: Assessment of the educational environment should be conducted on a regular basis in order to have a successful environment. This will in turn be beneficial for the students as well as the institution in a timely manner; and will definitely help in improving the teaching and learning environment in the institution by taking the necessary actions in weaker areas.

INTRODUCTION

The educational environment in an academic institution comprises of everything that happens within the scope of the classroom, outside the classroom, in a department, among the faculty, and in the university (Roff & McAleer, 2001). It is amongst the most vital component that determines the success or failure of an institute (Lizzio, Wilson, & Simons, 2002). An environment that has a positive approach (optimally supportive) towards students leads to achievements, enjoyment, and maximal involvement on the part of the student. In contrast, a negative environment (minimally supportive or non-supportive) has a totally opposite approach and result with students.

The way students perceive their educational environment is influenced by many factors like: cultural diversity among students and faculty, available educational facilities, professional level of faculty, type of curriculum, and students' expectations from that environment(Genn, 2001). All this focuses upon the importance of assessing students' perceptions regarding the educational environment, with a key focus on the idea of continuous improvement in the education and learning of students. According to World Federation for Medical Education (WFME) educational environment must be considered as one of the key areas that needs to be addressed during the evaluation of program of a medical institution (Riquelme et al., 2009).

Few studies have been carried out in our local setup in this context. One such study conducted in a public medical university in Karachi, Pakistan in 2011 using the standardized instrument of DREEM; and documented a total score of 114.5/200 (57.2%), thus showing a positive perception of their educational environment. This study also documented that girls perceived their educational environment to be more positive as compared to boys.(Jawaid, Raheel, Ahmed, & Aijaz, 2013) Another such study conducted in Karachi, Pakistan, documented an overall mean score of 117 ± 8.3; moderate positive correlation (r=0.417) between perceptions and students' academic achievements. This study also stated that the student support system was the weakest area found that needed emphasized focus.(Khursheed & Baig, 2014) Another study stated total mean score of 112/200 (56%), thus perceiving a positive environment, and at the same time, found student support system to be the weaker area(Umber, Khan, & Ihsan, 2011).

A medical school is an academic institution that is continuously changing & evolving. Thus it needs regular measurement & improvement to deliver good quality education & good doctors (Genn, 2001). As medical teacher & researcher I have observed & to the best of my knowledge I state the problem very cautiously that in our local setting regular & comprehensive assessment of educational environment is not being practiced; not as regular part of educational program of the institution.

Literature has also shown the gap that there is lack of actual practice of measuring educational environment in medical school on regular base; as part of the institution's good practices. It is important on account of the fact that each institution has its own setting in a particular culture that affects the educational environment on the whole (Soemantri, Herrera, & Riquelme, 2010). In our local set up of the medical education system this good practice of regular assessment of educational environment as part of educational program is missing. Results obtained from this baseline survey can be used to direct strategic management of the weaker areas in our educational environment; and it can be adopted regularly to scrutinize the educational environment and act accordingly to improve the weaker areas.

Objectives of this study were to determine undergraduate medical students' perceptions of first – final year class, regarding educational environment in their institute and to identify difference in perceptions of students from all classes regarding educational environment. Research questin developed for current study was: is there a difference between perceptions of students of different classes regarding the eductial enviroment.

METHODS

It was a descriptive cross-sectional study conducted at a private medical college in Lahore; during the time period of July 19-Oct 19. Then total number of medical students in all five classes in the college were taken as study sample. Whereas study population was medical students who were willing to participate in the study.

A sample of 375 was taken, equally divided among all five classes and across gender. Non-probability sampling technique – Convenient sampling was used to enroll the study subjects. Inclusion criteria was kept at: 1) Medical students who had given informed written consent 2) All undergraduate medical student enrolled for MBBS course. Exclusion criteria was kept at: 1) Allied and nursing students 2) students who had taken part in the research of same nature in the past one year. Study variables included: 1) socio demographic variables: age, gender, class, residential status i.e day scholars and hostilities 2) variables of students' perception: perception of learning, perception of teachers, academic self-perception, perception of atmosphere,

social self-perception. Data collection instrument was DREEM Questionnaire (Roff et al., 1997), a standardized and validated across different cultures. This questionnaire has 50 items assessing five different aspects of an educational environment based upon the responses from students. These five subunits cater to perceptions upon: students' perceptions of learning (SPL) having a maximum score of 48, students' perceptions of teachers (SPT) having a maximum score of 44, students' academic self-perceptions (SASP) with a maximum score of 32, students' perceptions of atmosphere (SPA) with a maximum score of 48, and students' social self-perceptions (SSP) having maximum score of 28.

Likert scale is used to rate each item and there are nine items that are scored in reverse order. Scoring details and cut offs are given with the questionnaire guidelines. This questionnaire has been translated into various languages and has been reported to have overall Cronbach's alpha coefficient ranges between 0.89 and 0.93 (Yusoff, 2012). The original English version of DREEM had been used in this study. For data collection eligible study population was identified from the attendance list of each class. A day earlier to data collection facilitators of respective lectures/ class will be requested for 15 minutes out of their slot for this purpose. Simultaneously earlier to data collection attendance lists for all five classes will be obtained from the student affair department. On the day of data collection class was given a small briefing upon the idea of research, informed written consent was taken; and then questionnaire was distributed. Students filled the form there and then in the presence of the researcher and returned it.

Data was collected from two-three classes in a day if possible; and complete data was collected in three days' time. Data was entered and analyzed on SPSS 20, & analysis was planned as:
1) Descriptive statistics, mean and standard deviation for all categories, frequency trends was noted for total and subunit scores of DREEM.
2) Independent sample t-test was applied to identify gender and residential status related difference in all subcategories and total score of DREEM; P-value <0.05 taken as significant.
3) ANOVA was applied to identify variation among all groups; P-value <0.05 taken significant. Ethical considerations were duly observed and approval for the conduction of this study was taken from the organizational Institutional Review Board (IRB).

RESULTS

Data of 366 respondents were entered & analyzed on SPSS. In my sample 44.5% were male students & 55.5% female; 51% were day scholars & 49% boarders. Class wise distribution of respondents was: 20% from 1st year, 21% from 2nd year, 22% from 3rd year, 21% from 4th year, & 16% from 5th year.

Table I: Descriptive statistics of the respondents Scores & Age (n=366)

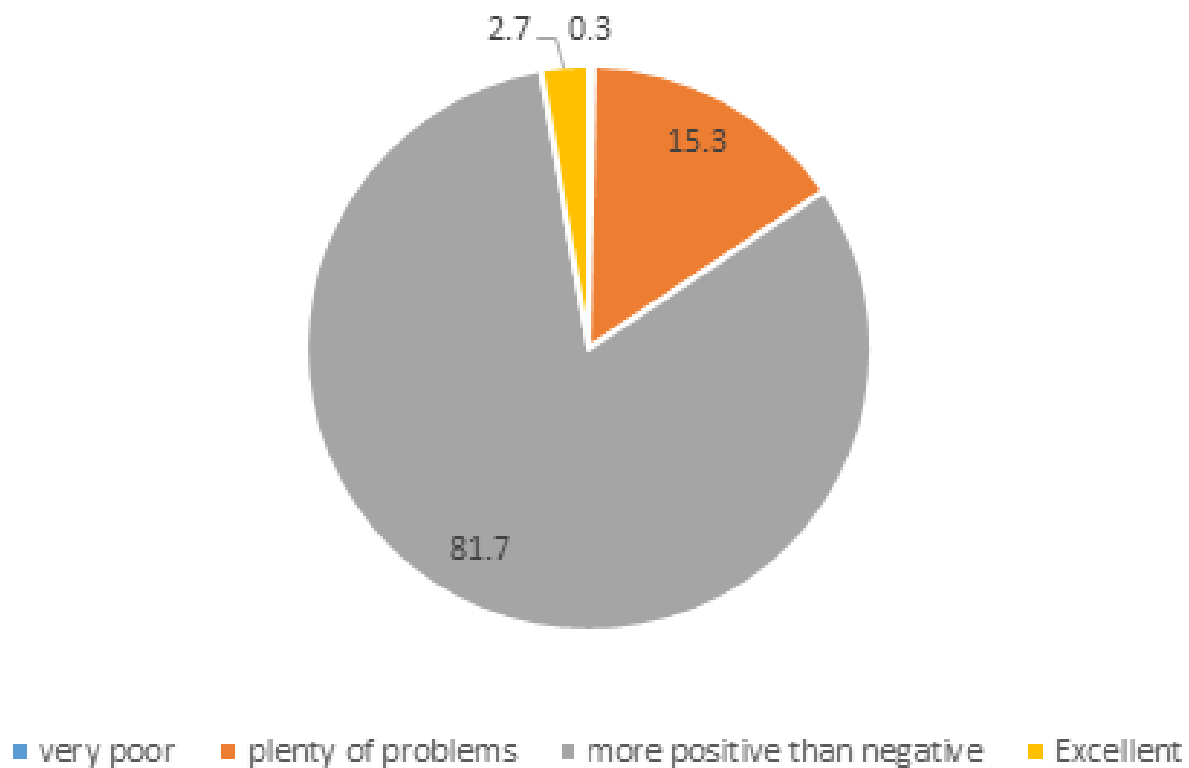| Variable	Minimum	Maximum	Mean	SD
Age	18	26	21.40	1.60
Students' perception of learning (SPL)	8	44	28.96	6.06
Students' perception of teachers (SPT)	7	44	25.53	5.06
Students' academic self-perception (SASP)	3	36	20.55	4.68
Students' perception of atmosphere (SPA)	7	44	27.76	5.95
Students' social self-perception (SSP)	1	26	15.78	4.10
Total Score	49	172	118.24	19.41

Fig.I: Categorization of DREEM TOTAL score (n=366)

Table II: Percentage wise individual categorization of all subunits domains of DREEM

Variable	Score & label	N(%)
SPL	0-12 very poor	5(1.4%)
	13-24 teaching is viewed negatively	76(20.8%)
	25-36 more positive approach	262(71.6%)
	37-48 teaching highly thought of	23(6.3%)
SPT	0-11 abysmal	3(0.8%)
	12-22 in need of some retraining	85(23.2%)
	23-33 moving in right direction	265(72.4%)
	34-44 model teachers	13(3.6%)
SASP	0-8 feeling of total failure	4(1.0%)
	9-16 many negative aspects	65(17.8%)
	17-24 feeling more on positive side	235(64.2%)
	25-32 confident	62(16.9%)
SPA	0-12 terrible environment	7(1.8%)
	13-24 many issues that need changing	89(24.3%)
	25-36 more positive atmosphere	253(69.1%)
	37-48 good feeling overall	17(4.6%)
SSP	0-7 miserable	17(4.6%)
	8-14 not a nice place	105(28.7%)
	15-21 not too bad	223(60.9%)
	22-28 very good socially	21(5.7%)

Table III: Independent sample t-test analysis upon DREEM scores (total/ sub unit) and Gender & residential status (n=366)

Variable	Scores & n	Mean & SD	p-value
Gender	SPL M (163)	27.35±6.33	.000***
	F (203)	29.77±5.61	
	SPT M (163)	24.87±5.01	.026**
	F (203)	26.06±5.06	
	Total M (163)	115.66±21.03	.022**
	F (203)	120.31±17.78	
Residential status	SPL Day scholar (187)	27.87±6.12	.008***
	Boarder (179)	29.55±5.89	
	SPT Day scholar (187)	24.59±5.14	.000***
	Boarder (179)	26.51±4.80	
	SASP Day scholar (187)	19.32±4.74	.000***
	Boarder (179)	21.83±4.27	
	SPA Day scholar (187)	27.12±5.93	.037*
	Boarder (179)	28.42±5.92	
	Total Day scholar (187)	114.35±19.60	.000***
	Boarder (179)	122.30±18.40	

P-value <0.05* significant, **highly significant, ***very highly significant

± Standard deviation symbol

Table IV: Results of ANOVA application upon sample (n=366)

Variable		Sum of Squares	df	Mean Square	Sig.
SPT score	Between Groups	549.08	4	137.272	.000***
	Within Groups	8827.95	361	24.454	
	Total	9377.03	365		
SASP score	Between Groups	470.11	4	117.528	.000***
	Within Groups	7550.29	361	20.915	
	Total	8020.40	365		
SPA score	Between Groups	619.51	4	154.879	.001***
	Within Groups	12344.80	361	34.196	
	Total	12964.32	365		
Total score	Between Groups	3972.96	4	993.242	.031**
	Within Groups	133563.35	361	369.982	
	Total	137536.32	365		

P-value <0.05* significant, **highly significant, *** very highly significant (Between groups: is between classes; within groups: is within class)

DISCUSSION

There is great difference in the perceptions of students on account of their different backgrounds and exposure, available educational facilities, quality of teaching faculty, curriculum content planning and execution, and above all many varied expectations on part of the students (Genn, 2001). Educational environment has effect upon all the influencing factors that are crucial for the success of curriculum as in how, why, what, and when students learn. In order to develop a successful educational environment feedback from the students is very important and plays a pivotal role in this assessment. Their perceptions may be different from each other on account of various factors, still they give a good idea about the qualitative aspect of the educational environment in an institute (Al Rukban, Khalil, & Al-Zalabani, 2010).

Present study had a very good response rate and 366 students filled the questionnaire out of a total sample of 375; with male students 163(44.5%) and female students 203(55.5%). This finding is similar and is supported by a previous study conducted in Karachi, Pakistan; that also had majority female students responding 463-79.0% (Jawaid et al., 2013). Total DREEM score mean in this study 118.44±19.41; as well as results in all the subunit domains are well supported, showing similar trends

as the past study, that was conducted upon undergraduate medical students of three different medical colleges affiliated with Dow Medical University in Karachi. Comparative study researchers had also used the same DREEM questionnaire to assess the perceptions of medical students about the educational environments in their respective colleges. Similar study design and sampling technique had been applied in the comparative study as in the present study(Jawaid et al., 2013). Present study results of DREEM total scores upon categorization (fig.I) is similar to & supported by past studies (Jawaid et al., 2013; Patil & Chaudhari, 2016). Still, in present study 15.3% students think that there are plenty of problems in the educational environment. In researcher's opinion these responses should be looked into with depth in order to identify the problem and take necessary action in this regard. Various other studies found DREEM total score mean results as: in Sri Lanka 108/200,(Jiffry, McAleer, Fernando, & Marasinghe, 2005) Nigeria 118/200,(Genn, 2001) and in UK 139/200 (Varma, Tiyagi, & Gupta, 2005). Developing countries like Sri Lanka and Nigeria show mean scores like this study; whereas mean score is on the higher side in UK.

In our study, individual categorization of all subunit domains (table II) showed different trends, clearly demarcating majority strong areas as well as areas that should be addressed and looked into with deep insight. Areas of concern in the domain of: SPL

76(20.8%) perceived teaching as negative & 5(1.4%) thought of it as very poor; in the domain of SPT 85(23.2%) students think that there is some need of retraining; in SASP 65(17.8%) students perceive that there are many negative effects; in SPA domain 89(24.3%) students perceive that there are many issues that need changing; in SSP 17(4.6%) students perceive it to be miserable, & 105(28.7%) perceive it as not a nice place. These findings are similar to previous study that has used similar variables and socio demographic factors were also similar to this study. Results of this comparative study showed similar trends (Jawaid et al., 2013). These findings of present study warrant to have some deeper insight into the situation, so as to identify the gaps that can be probable reason for these negative perceptions; and take the needed corrective measures in order to improve the situation for the benefit of the students and institution.

In this study, Independent sample t-test was applied upon gender and scores (table III) to identify difference between means & variability of two sample population; & highly significant P-values <0.05 were found with SPL, SPT, Total score. This finding is similar to and is supported by a previous study that also show significant P-values with gender in the domains of SPL (.002), SPT (<.0001), and (.009) SPA (Jawaid et al., 2013). Independent sample t-test was applied upon residential status of students, & highly significant P-values were found with SPL, SPT, SASP, SPA, and total score (table IV). A very probable and logical reason for this finding can be living away from home in hostels combined with the competitive studies pressure.

One-way ANOVA test results showed significant difference of students' perceptions between the groups (between classes) & within the group (within class). Present study found highly significant P-values with SPT (.000), SASP (.000), SPA (.001), and total score (.031). Thus, showing that significant difference is present in the perceptions of students of different classes as well as among students of one class too; in regards to these domains. This finding is similar to another past study that had taken undergraduate medical students of first, third, fifth, and seventh semester; same study design and sampling technique as present study were applied; and used the same DREEM questionnaire to assess perceptions of students of their educational environment. The comparative study found significant difference between the years of study upon application of one-way ANOVA on all individual items in the domains of the questionnaire (Pai, Menezes, Srikanth, & Shenoy, 2014).

CONCLUSION

Areas where the students have shown negative perceptions should be looked into in detail. Assessment of the educational environment should be conducted on regular basis as per policy in order to have a successful environment. This will in turn be helpful support in a timely manner; and will definitely help in improving the teaching and learning environment in the institution. This study carries a positive impact for the institution in moving ahead and adopting necessary insight, corrections and support in the weaker areas; so as to enhance teaching and learning environment in the institution.

Limitations

Major limitations of this study were time constraint & non-representativeness of the sample, on account of which generalization of results could not be done.

Way Forward

This study opens avenues for further research in this area with a representative and comparative sample from both public and private medical colleges; in order to assess perceptions of students of their educational environment in respective sectors. Results will help in taking up the required changes and corrections as a whole in the undergraduate medical institutions as per policy matter.

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DECLARATION OF INTEREST

There is no conflict of interest.

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AUTHORS CONTRIBUTION

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