

# STUDENT PERCEPTIONS OF EDUCATIONAL ENVIRONMENT

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## ABSTRACT

**BACKGROUND:** Educational environment plays a vital role in producing competent healthcare professionals since it influences how, why and what students learn. It is thus regarded as one of the most important factors determining achievements of medical students.

**AIM:** The aim of the study was to measure the student's perception of educational environment at Institute of Public Health and Social Sciences, Khyber Medical University.

**METHODS:** Dundee Ready Education Environment Measure (DREEM) Inventory is a 50-item inventory developed at Dundee for assessing learning environment specifically for medical and public health schools and other health professions. All students currently enrolled in MPH program and MSc Epidemiology and Biostatistics, morning and evening sessions were included in the study.

**RESULTS:** The response rate was 93%. The average DREEM score was 143.44+/-8.4 ( which shows more positive environment than negative. Variations were observed in responses to individual items while identifying specific strengths and weaknesses within the learning environment. Scoring on 9 items (3, 14, 27, 29, 4, 8, 35, 39 and 50) was found less than 2, out of which five items (4, 8, 35, 39, and 50) were negatively expressed items and their low score suggest movement in positive direction. While negatively expressed items (9, 17, 25 and 48) were scored more than 2 which shows movement in negative direction.

**CONCLUSION:** Students' perceptions of their educational environment at institute of public health and social sciences were reasonably positive amongst all batches, indicating adequate level of satisfaction in most areas of the existing curriculum.

**KEY WORDS:** learning environment, DREEM, students perception

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## INTRODUCTION

Educational environment plays a vital role in producing competent healthcare professionals since it influences how, why and what students learn. It is thus regarded as one of the most important factors determining achievements of medical students.<sup>1</sup>

It has been defined as everything that is happening in the medical in-

stitute and is said to be influenced by the curriculum which is also a determinant of the behavior of the medical school's students and teachers.<sup>2</sup> Educational environment encountered by students has an impact on their perceived well-being, aspirations and academic achievements.<sup>3</sup>

Students are one of the main stakeholders of medical curricu-

lum. Their perception provides basis for modification of elements operating in educational environment or climate in order to enhance the learning experiences in relation to the teaching goals. It is therefore pivotal to assess the climate of the institution on a regular basis in order to nurture the areas of excellence and improve the areas needing attention.<sup>4</sup>

The World Federation for Medical Education (WFME) singles out 'learning environment' as one of the 'targets' for what it terms 'the conduction of the evaluation of medical education programmes'.<sup>5</sup> Its importance has been further highlighted by the Standing Committee on Postgraduate Medical Education (SCOPME), stating that a working environment that is conducive to learn-

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ing is critically important to successful training. The university learning environment is a complex construct that includes a wide range of aspects and diverse foci.<sup>6</sup>

Dundee Ready Education Environment Measure (DREEM) Inventory has been used all over the world for evaluating the educational environment.<sup>7,8</sup> DREEM is a 50-item inventory developed at Dundee for assessing learning environment specifically for medical and public health schools and other health professions. It has been used for many purposes, like identifying the strengths and weaknesses of a teaching programme, comparing the outcomes of a programme delivered at different centres etc.<sup>9,10</sup>

Up to my literature search, in Khyberpakhtunkhwa, no major work is so far done in this regard specially at post grade level at public health institutes. Evaluation of educational environment of medical and health related institutions should be done on a regular basis. It is, therefore, a need felt at institutional level to get regular analysis of students' perceptions of the educational environment.

The main goal of the study was to measure the student's perception of educational environment at IPH&SS, KMU. This should allow the University to take steps in enhancing the environment in order to improve the quality of its product i.e. the Public Health specialists.

The first objective of the study was to measure student's perception of educational environment at Institute of Public Health & Social sciences, Khyber Medical University. Second objective was to identify problem areas that should be remediated.

## METHODS

A cross sectional study was conducted at Institute of Public Health and Social Sciences, Khyber Medical University, Peshawar from January 2015 to June 2015. All students enrolled in MPH program and MSc Epi-

demology and Biostatistics, morning and evening sessions at Institute of Public Health at Social Sciences, Khyber Medical University, Peshawar were included in the study. (Total study population at IPH&SS, KMU was 82 at the time of study). Students who remained absent during data collection time due to sickness or any other reasons.

The inventory was administered to the students just after a lecture class. Informed consent was taken after explaining briefly the purpose and process of collecting data. It was ensured that there would be strict confidentiality of data. Ethical considerations were maintained throughout the process.

The 50-item DREEM-inventory has a maximum score of 200, indicating an ideal educational environment. Allocation of scores on a 5-point Likert scale is defined as; 4=strongly agree, 3=agree, 2=unsure, 1=disagree and 0=strongly disagree, resulting in a maximum score of 200. There are nine negatively expressed items (4, 8, 9, 17, 25, 35, 39, 48 and 50) and are scored in the reverse order. Items that have a mean score of 3.5 or over are real positive points. Any item with a mean of 2 or less should be examined more closely as they indicate problem areas. Items with a mean between 2 and 3 are aspects of the climate that could be enhanced. Data analyzed on SPSS version 16.

The guidelines for the interpretation of scores on (i) individual items, (ii) subscales and (iii) overall DREEM were all followed.

Since development at Dundee University, it has been successfully validated and used in developed and developing countries, including Pakistan.<sup>12-14</sup>

## RESULTS

Of the 82 students currently enrolled, completed forms were received from 76(93%). The overall mean score was 143.44+/-8.4 (which shows more positive environment than negative). Of the 82 question-

naires distributed, 76(93%) were included in the final analysis, while 6 (7%) forms were excluded owing to >10% missing values.

Variations were observed in responses to individual items while identifying specific strengths and weaknesses within the learning environment. Scoring on 9 items (3, 14, 27, 29, 4, 8, 35, 39 and 50) was found less than 2, out of which five items (4, 8, 35, 39, and 50) were negatively expressed items and their low score suggest movement in positive direction. While negatively expressed items (9, 17, 25 and 48) were scored more than 2 which shows movement in negative direction.

The mean subscale score on Students' Perceptions of Learning (SPL) found to be 35.2±2.71 showed a more positive approach towards learning. All positive items on SPL showed mean item scores >2.0, indicating that they could be further improved while two negatively expressed items (25 and 48) "teaching overemphasizing factual learning" and "teaching is too teacher centered" were scored more than 2 which shows movement in negative direction and need to be corrected.

The mean subscale score on Students' Perceptions of Teachers (SPT) was 32.25±4 which indicates that it is moving in the right direction. According to mean DREEM item-score on SPT, all students reported that the teachers were knowledgeable 4.02±0.65 and In general, students' perceptions regarding their teachers showed that their teachers had good communication skills, they gave clear examples, and that the teachers were well prepared for their classes. Scores obtained on DREEM items on SPT indicated that these are the strong areas. On the other hand, low scores on negatively expressed item, such as "teachers ridicule the students and the teacher gets angry during session signify positive attitude indicating movement in positive direction. But high score on negatively expressed item "The course teachers are authoritarian"

TABLE 1: MEAN SCORES WITH STANDARD DEVIATION ON DREEM-ITEM AND SUBSCALES

| DREEM Subscales  | Mean  | SD     |
|--|-------|--------|
| Students' Perception of Learning (SPL)                               | 35.2  | ±2.71  |
| Students' Perception of Teachers (SPT)                               | 32.25 | ±4     |
| Students' Academic self-Perceptions (SAP)                            | 23.79 | ±2.256 |
| Students' Perception of Atmosphere (SPA)                             | 35    | ±5.891 |
| Students' Social Self- Perceptions (SSP)                             | 17.20 | ±3.092 |
| DREEM items with Mean Scores < 2                                     |       |        |
| 29 The teachers are good at providing feedback to students (SPT)     | 1.92  | ±1.091 |
| 27 I am able to memorize all I need (SAP)                            | 1.97  | ±1.118 |
| 14 I am rarely bored on this course (SSP)                            | 1.55  | ±1.227 |
| 3 There is a good support system for students who get stressed (SSP) | 1.04  | ±0.799 |
| DREEM items with Mean Scores < 2                                     |       |        |
| 8 The teachers ridicule the students (SPT)                           | 1.96  | ±1.052 |
| 39 The teachers get angry in class (SPT)                             | 1.58  | ±1.102 |
| 50 The students irritate the teachers (SPT)                          | 1.36  | ±1.210 |
| 4 I am too tired to enjoy this course (SSP)                          | 1.63  | ±1.086 |
| 35 I find the experience disappointing (SPA)                         | 1.48  | ±1.102 |
| DREEM items with Mean Scores >3                                      |       |        |
| 15 I have good friends in this course (SSP)                          | 4.08  | ±0.889 |
| 11 the atmosphere is relaxed during consultation teaching            | 3.11  | ±0.99  |
| 2 the course teachers are knowledgeable                              | 4.02  | ±0.65  |
| 37 the course teachers give clear examples                           | 3.09  | ±0.69  |
| 40 The course teachers are well prepared for their teaching session  | 3.21  | ±0.92  |
| 19 my social life is good  | 3.85  | ±1.009 |
| DREEM items with Mean Scores > 2                                     |       |        |
| 25 The teaching over-emphasizes factual learning (SPL)               | 2.55  | ±0.908 |
| 48 The teaching is too teacher-centered (SPL)                        | 2.85  | ±0.948 |
| 9 The teachers are authoritarian (SPT)                               | 2.48  | ±0.979 |
| 17 cheating is a problem in this course (SPA)                        | 2.48  | ±0.979 |

2.21±1.236 signified area that could be improved further. While Item As per students' perception, the quality of feedback was ineffective 1.92±1.09 and the area needed particular attention.

The mean score on Students' Academic Self-Perceptions (SAP) was 23.79±2.256 indicating that they were feeling more on the positive side. They all believed that they were well-prepared for the profession and were also confident about passing the examinations. All of them felt to a great extent that what they

had learnt was relevant for a career in future. While low score on item "I am able to memorize all I need" indicated the area that needs particular attention.

The Students' Perceptions of Atmosphere (SPA) aspect was overall rated quite positive by the students 35±5.891 which shows a more positive atmosphere. They all agree that there were opportunities to develop their interpersonal skills and that the experience gained by them was not disappointing. Cheating was con-

sidered a problem area that needed particular attention.

The mean score on Students' Social Self-Perceptions (SSP) was 17.20±3.092 which is not too bad. It was perceived in general that the support system for students who became stressed was not good 1.04±0.799. Additionally, the students felt bored quite often 1.55±1.227. On the other hand they reported that their social life was going well 3.85±1.009. They agreed that they had good friends in their institution 4.08±0.889 and that the accommodation was pleasant 2.82±0.887.

## DISCUSSION

The Dundee Ready Educational Environment Measure (DREEM) is an objective measure of medical educational environment which is commonly used with undergraduate students. But it can be used to comprehensively assess the educational environment of postgraduate students. A cross-sectional study attempted comparison of perceived educational environment experienced by students of two postgraduate public health courses, namely, Doctor of Medicine (MD Community Medicine) and Masters in Public Health (MPH) in India.<sup>11</sup>

DREEM can be administered on postgraduate public health students with minimal modifications. With many new courses being conceived and initiated in the field of public health, DREEM may find use in the design and development of a course environment favorable to the students.<sup>11</sup>

This is one of the few studies about educational environment at postgraduate teaching institute using validated DREEM inventory. The overall score was not excellent with a mean score of 143.44 although it was more positive than negative. Moreover, the result is comparable with those obtained from a study conducted in India at postgraduate level for students of MPH and MD community medicine. Both the courses ( MPH and MD community

medicine) were found to have more positive than negative features to their credit. Domain-wise and item-wise analyses highlighted the areas that needed attention to improve educational environment. Almost all the students had attempted all the questions proving that DREEM was nonthreatening, respondent friendly and relevant. The results help to sustain performance in domains which were rated good and mend performance in domains rated below average. Periodic follow-up measurements can be used to look for trends in scores of various domains and evaluate any attempt or innovation to improve the educational environment.

Students' perception of the educational environment have a significant influence on their behavior, motivation, and academic achievement.<sup>2</sup> Although DREEM is currently most widely used measure of educational environment, such questionnaires cannot show the entire canvas. They may be valuable in indicating the areas of concern by most of the students; they fail to provide any understanding about the concerned reasons. There is need to have some qualitative data with quantitative inventory as it significantly improves the quantitative inventory understanding, and points out remedies to common areas of student dissatisfaction.<sup>15</sup>

the DREEM is capable of differentiating between student-centered and teacher centered, didactic environments and is also able to make comparative analyses of students' perceptions of educational environments between institutions.<sup>12</sup> Further study can be done on comparative analysis of student perceptions of educational environment between different institutes of Khyber Medical University.

A conducive learning environment, for example, comfortable learning rooms, receptive environment and motivated, skilled and approachable teachers, is believed to increase learner motivation, which

in turn leads to better engagement in learning, and improved performance.<sup>2</sup> Development of higher order skills or meta-competencies is a complex and interrelated process, which is affected by all aspects of the learning environment.<sup>2</sup>

Scores obtained on item number 10 and 21 reflect their positive self-concept. Self-concept has been defined broadly as "a person's self-perceptions formed through experience with and interpretations of his or her environment."<sup>16</sup> Recent reviews have shown at various levels of analysis, and in various domains, that positive self-concept is moderately correlated to positive outcomes.<sup>16</sup> However, when the students' expectations are not met in reality, they experience disappointment and discomfort which may directly influence the quality of their learning experiences/academic achievements.<sup>16</sup>

It is also evident that even within an optimized learning environment there are significant variations in the students' learning gain. Factors like personal learning styles and motivation could ultimately govern a student's achievement.<sup>17,18</sup> Positive attitudes and deep approach are closely linked with academic progress.<sup>18</sup>

## CONCLUSION

Students' perceptions of their educational environment were reasonably positive amongst all batches, indicating adequate level of satisfaction in most areas of the existing curriculum. The establishment of formal student support programs appropriately within the university is strongly recommended. Continuous evaluation of learning environment should be emphasized. Further studies are recommended to explore the students' perceptions of learning environment.

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## NOTES ON CONTRIBUTORS

NM, BJ and ZK were involved in every part of the analysis, idea's development, write-up, and editing the final draft.

## CONFLICT OF INTEREST

Authors declare no conflict of interest.

## ETHICS APPROVAL

The approval/permission was obtained from Khyber Medical University Research and Ethics Board.

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