

PERCEPTION OF FOURTH-YEAR MEDICAL STUDENTS REGARDING THEIR EDUCATIONAL ENVIRONMENT IN THE PEDIATRIC UNIT OF KHYBER TEACHING HOSPITAL

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ABSTRACT

Objectives: The study aimed to assess the students' perception of the educational environment in the pediatric unit of Khyber teaching hospital using Dundee Ready Educational Environment Measures (DREEM).

Material and Methods: This cross-sectional, questionnaire-based study was conducted at the Department of Child Health Khyber Teaching Hospital Peshawar, Pakistan, from May to November 2019. The sample size included 220 students fourth-year students. The study instrument was the DREEM questionnaire, which has 50 items that assess five domains. There are 50 items with 5 subscales and the maximum score is 200. Descriptive statistics were used to calculate the mean and standard deviation of the DREEM and the five domains

Results: Of the 220 Students, 100 completed the questionnaire, resulting in a response rate of 45%. The total DREEM score was 113.14/200 (56.57%). The results showed that student's perception of their learning environment was 27.31/48 (56.89%), the perception of teachers was 25.45/44 (57.84%), self-perception of their academics was 18.97/32 (59.28%), their perception of the atmosphere was 27.7/48 (57.7%), and social self-perception was 13.7/28 (48.96%).

Conclusion: The study found that the atmosphere in the pediatric ward of Khyber Teaching Hospital was perceived positively by the students. However, the total DREEM score and points in the subdomains did not fall in the excellent category and remained one step below the highest rank. Therefore, there is room for improvement in the educational climate at the pediatric ward of Khyber Teaching Hospital.

Keywords: Dundee Ready Educational Environment Measures (DREEM), educational environment measures.

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INTRODUCTION

The main objective of medical education is to groom medical students irrefutable in the clinical world. Medical students' achievements and training depend largely on the quality of the medical learning environment¹. Therefore, to address the problems and issues in medical education, evaluating the educational setting can be helpful. Numerous researches on education have shown that medical students' perception of their academic environment is related positively to their learning². The clinical and

academic learning environment has a significant impact on medical students' approaches to acquiring knowledge, enhancing awareness and understanding, progress, and behaviors³. For improvement purposes, students' perceptions can form the basis and the educational environment can be modified and reformed⁴.

The students' perception of its academics and learning climate is of utmost importance and form the basis for redefining the educational curricula. These, in turn, can affect the student's motivation, success, emotional well-being, and contentment. Students' contentment with learning experiences is an essential element of quality learning, and when a high-quality, student-centered curriculum is provided, to the students then assessment and measurement of the educational environment with suitable tools/ instruments is necessary.⁵ The academic environment is best assessed by the DREEM instrument and provides a complete indication of the education process, the outcome of which is being used to enhance students'

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contentment and accomplishments⁶.

This study is intended to assess the academic learning environment of our teaching hospital pediatric ward and address undergraduate educational insufficiencies and find realistic solutions. The results may provide a baseline and starting point for changes in curricular developments. The objectives of the study were to assess the students' perception of the educational environment in the pediatric unit of Khyber teaching hospital using Dundee Ready Educational Environment Measures (DREEM).

MATERIAL AND METHODS

This was a cross-sectional, questionnaire-based study conducted in the Department of Child Health Khyber Teaching Hospital Peshawar, Pakistan. The study utilized the pre-validated and pretested Dundee Ready Educational Environment Measures (DREEM) questionnaire in the English language. The study was conducted from May 2019 to November 2019 and was approved by the Institutional Ethical research board of Khyber Medical College, Peshawar. All 220 fourth-year students who had completed their 4-week rotation in pediatric medicine were included. The purpose of the study and the questionnaire were explained to the students at the end of their rotation, and their participation was voluntary and anonymous.

Out of the 220 students, 100 responded, resulting in a response rate of 45%. The DREEM questionnaire

consists of 50 items that evaluate five domains. Each item is scored on a Likert scale ranging from 0 to 4 (strongly disagree = 0, disagree = 1, unsure = 2, agree = 3, and strongly agree = 4). Before analysis and interpretation, the following nine negative items - items 4, 8, 9, 17, 25, 35, 39, and 48 - must be rated in reverse. Details are provided in the Annexure.

The response sheet of DREEM was handed over to fourth-year MBBS students at the end of their pediatric ward rotation after approval was taken from Institutional Ethics Board. The questionnaire was filled by students voluntarily, the consent was implicit when questionnaires were returned filled and when questionnaires were returned blank, was presumed a non-consent.

Statistical analysis using descriptive statistics SPSS version 21 to calculate variables of DREEM. The mean and standard deviation were calculated for all of the items. The items with a mean score less than 2 suggested a need for change and the mean score more than or equal to 3.5 were taken as real positive.

RESULTS

Out of 220 Students, 100 filled the questionnaire, the total proportion of response was 45% and total DREEM score was 113.14/200 (56.57%) questionnaire showing that observation of students regarding their learning was 27.31/48 (56.89 %), perception of teachers was 25.45/44(57.84%), students self -perception of their academics 18.97/32 (59.28%), student perception of atmosphere 27.7/48(57.7%), students social self-perception was 13.7/28 (48.96%) (table 1 and 2)

DISCUSSION

The world now prioritizes a healthy educational environment, and the interpretation of the mean total DREEM score of this study depicted more positive than negative outcomes. The DREEM guidelines assign an excellent to

Table 1: Total mean score and Mean score and SD* of each subscale

Questionnaire	Mean + SD
Total score	113.14+-12.76
Learning (SPL)	27.31+ -3.98
Teaching (SPT)	25.45+- 3.97
Academic (SASP)	18.97+ -3.56
Atmosphere (SPA)	27.7+ -4.606
Social self-perception (SSSP)	13.71+ - 2.948

Table 2: Total score of DREEM and interpretation of the mean score

Total score	Max score	Percent of perception of mean score	Interpretation of mean score
Total DREEM score	200	56.57%	Positive perception 113.14/200
Students' Perception of Learning (SPL)	48	56.89 %	Positive perception 27.31 /48
Students' Perception of Teachers (SPT)	44	57. 84%	Positive perception 25.45/44
Students' academics self-perception (SASP)	32	59.28%	positive perception 18.97/32
Students' perception of the atmosphere (SPA)	48	39.5%	many issues need changing 18.97/48
Students' social self-perception (SSSP)	28	48.96%	Not a nice place 13.7/28

151-200 and 0-5 as poor^{7,8}.

Local as well as regional international studies reported a more positive score than negative. Jawaid et al, reported in a study conducted in three medical colleges of Dow Medical University using DREEM guidelines that a mean score of there was more positive than negative (114.4) which is comparable to our study.⁹ Similarly Madina University Faisalabad has a mean score which falls in the more positive than negative category (112/200).¹⁰ Higher mean scores were reported by Khan et al (124/200) and Uzma Z et al (120/200)^{11,12}. The scores of these institutes are higher than ours but still in the same category i.e. not considered as excellent but positive.

There are many international studies from south East Asia reporting positive scores. Students of Hormozgan University of Medical Sciences South Iran reported a mean score of 99.6 like our students.¹³ Pai et al from India reported a comparable score from a medical institution using DREEM¹⁴.

Regarding the five subclasses of DREEM the highest calculated score in our study was 59.28% in the subclass Students' academics self-perception (SASP) and the lowest score of 39% in Students' perception of the atmosphere (SPA) where many issues are there which need changing. The above-average score in our study in the five domains of DREEM depicts positive perceptions of students about the clinical atmosphere. The clinical environment is rich in terms of the availability of real-life cases offering meaningful opportunities to participate in clinical activities like history taking, examination, and practicing their communication skills. The clinical environment provides effective, pedagogic, and organizational support for students to learn^{13,15,16}.

Students' perception of learning: Students perceived their learning as excellent when they are stimulated to contribute to the discussion in class and teachers are encouraging and learning is student-centered. In this study, students observed their learning positively. The rich clinical environment and the tutors help the student to socialize in the healthcare profession, creating a professional identity relating to the student's current and future roles in the healthcare system. Tutors are entrusted with responsibilities to foster students' learning, helping to develop students' attitudes, values, and professional competencies¹⁷.

Kohli et al suggested that the learning experience of students in a clinical setting can be improved by structured and systematic clinical teaching; advising teachers to plan clinical encounters according to curricular objectives, rather than an opportunist selection of cases.¹⁸

Students' Academic Self-perception (SAP) - The capacity to handle the workload of academics is called academic self-perception. Low scores have been reported

in this domain in most studies, suggesting the universal anomaly of curriculum overload, regardless of being conventional or novel curricula^{19,20}. Thus an obvious change is required in the curriculum; by bringing alteration in the content of the course as well as the way it is implemented¹⁸. The unstructured and hectic teaching may overwhelm clinical batches of students in any institute. In our study, the limited exposure to clinical clerkship, fewer theory classes, and the Paediatric professional exam being in the final year rather than 4th year exposes the students to a lesser workload which may have led to a higher score in academic self-perception.¹⁷

Students' Perception of Atmosphere (SPA) - In our study, the student's perception of the atmosphere scored less at 39% similar to a study by Kiran and Sean.²¹ The reasons given in the study were related to poor scheduling, anxiety, a non-motivating environment, and a dearth of prospects to develop social skills²¹. The increased workload of patient care in clinical units hinders even a competent teacher to teach undergraduate students. Thus ironically the chance of experiencing a hospital's real-life experience is lost²².

Students' Social Self-perception - in our study the students' social self-perception has a 48% score which is a bit lower than all other domains and this reflects the stress, burnout, or boredom due to inadequate or non-existing student support system. Our institution has just started a mentoring program; mentors among faculty are involved to develop student support. Stress can be reduced and support can be provided to students by a program involving peers and teachers in a mentoring program.²³ Raising awareness about offering social and academic support through mentors to students is indispensable in institutions. Poor support of students was reported in other studies as well.^{22,24} The students described a good social life as being in the company of their friends which made them happy and reduced stress. The concept of near-peers being mentors uses this concept. Evaluators should plan the curriculum in innovative ways to make it less huge, and engaging to avoid monotony and dullness for students^{25,26}. This is a very tiring and long debate since the impact on course outcomes will be unfavorable with the decreasing curriculum.

This study has a few limitations: The educational environment is an intricate combination of various elements, varies with each institute, and may not apply to others. Dundee Ready Educational Environment Measures (DREEM) has predetermined choices in the questionnaire while some of the factors in the pediatric ward environment in the local setup may have been left out. Therefore, further research is needed to find other factors in the local setup of the Paediatric department. Secondly, the questionnaire was very lengthy and this may be the reason for the less than 60% student response rate which

is a limitation of this study.

CONCLUSION

The students deemed the Paediatric unit's learning atmosphere at Khyber Teaching Hospital as more positive than less negative. This DREEM score is reassuring though not an excellent and perfect category. The clinical learning environment has the potential for further improvement at the pediatric ward of Khyber Teaching Hospital. The assessment by the students had more of a positive trend however improvement is required in all the five domains. The most trouble was with 'students' perception of atmosphere'. Specifically, students want many issues to be resolved and need changes in the atmosphere. A curriculum that incorporates both problem-based learning and evaluation may offer students engaging learning possibilities. Senior students may benefit from the support of instructors and close friends who serve as mentors.

Students' perception of the educational environment of other clinical years can be used to observe the effect of curriculum, to bring changes, and monitor these changes over the years. Students' learning is enhanced by a favorable academic environment thus further research is required to define the elements of a perfect clinical environment.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Munir A: Writing up, literature search
Amir S: Data collection, analysis, editing
Ahmed F: Basic idea, writing up the proposal
Mahboob U: Overall supervision and correction of document
Khan MA: Stistical Analysis and Reference writing

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.



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