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Original Article

Students' perception of learning and educational environment in Behbahan Faculty of Medical Sciences

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Abstract

***Background & Aims*:** Learning is a complex process in which various factors are involved. The quality of the educational environment is one of the most important factors indicating the quality of education and students' learning. Thus, this study aimed to evaluate the learning environment for students of Behbahan Faculty of Medical sciences.

***Materials & Methods*:** This descriptive-analytical cross-sectional study was conducted at Behbahan Faculty of Medical Sciences with 115 students. Dundee Ready Education Environment Measure (DREEM) model was used for data collection that obtained 50 questions in five domains, including students' perceptions of learning, teachers' perceptions of teachers, students' academic self-perceptions, and students' perceptions of educational atmosphere and students' social self-perceptions. Data analysis was performed using descriptive statistics (frequency, percentage, mean and standard deviation) and one-way ANOVA.

***Results*:** The mean score of the overall DREEM score was 150.28 +13.03 out of a maximum of 200, showing favorable educational quality (75%). The lowest DREEM score was 64% in students' perceptions of learning, and the highest DREEM score was 79% in both students' perceptions of the professors and students' perceptions of the educational atmosphere. The mean difference for the DREEM subscale scores in different fields of study was statistically significant in all DREEM domains ($p < 0.05$).

***Conclusion*:** Overall, the finding of this study showed that the educational environment of Behbahan Faculty of Medical Sciences was assessed as favorable by the majority of the students. But, considering the difference in results in different fields of study, the strengths and weaknesses of disciplines should be considered to improve the educational environments.

***Keywords*:** Educational environment, Students' perception, DREEM Questionnaire

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Introduction

Curricula emphasize the ranking and accreditation of institutions (1). Therefore, the evaluation of learning and teaching activities at every level and grade must be emphasized (2). According to the predefined standards, educational quality is measured visibly and operationally. One of the diagnostic tools in this field is measuring the educational environment (3).

The educational environment plays an important role in the training of skilled graduates in universities, and the university is an environment where students are expected to experience various learning activities (54). It has been determined that the curriculum is the most crucial determinant of the learning environment, and the learning environment is the most influential determinant of educational behavior (2). Therefore, one of the important reasons for evaluating the university environment is the relationship between the student's perception of and satisfaction with the educational environment and their academic success. To improve the learning quality, it is necessary to identify and strengthen the weak points of the learning environment. Therefore, more importance should be given to students' perceptions to improve the learning environment (6,7). According to the advantages mentioned above, if it is possible to identify and evaluate the active elements in the educational environment of a higher education institution as students perceive them, then we have a basis for modifying them to strengthen the learning experience and pave the way for informed educational policy-making based on the recognition and correct allocation of the organization's strategic resources (8).

Considering the importance of the educational environment, we can assess it by measuring educational quality (1). Quantitative measurement of the educational environment requires using tools of good quality and suitable for measuring the educational environment. One of these tools is the Dundee Ready Education Environment Measure (DREEM) questionnaire, used to diagnose curriculum problems and the effectiveness of educational changes. DREEM also identifies the difference between the real and the desired environments and provides valuable information to the managers (9). This questionnaire has been used in many institutions with different goals, such as comparing faculties with each other, comparing successful and less successful students, evaluating students' perception of the ideal educational environment, comparing the expected and desired educational environment against a real educational environment (3, 4, 6-8, 10-12). Many domestic and foreign studies have investigated the educational environment's state using DREEM and clinical students' opinions about the educational environment and its relationship with academic progress. The results indicate this questionnaire's sufficient validity and reliability in measuring the educational environment (3, 7-9, 13-17). This questionnaire is the most comprehensive tool with appropriate validity and reliability to evaluate the educational environment in universities of medical sciences, which has been translated into eight different languages and used in at least 20 countries. Since students are recipients of educational services and one of the sources of identifying clinical education problems, they can be consulted regarding the quality of clinical education. It seems that comparing the educational environment of different paramedical fields of a faculty, which are probably the same in terms of infrastructure and some governing laws, can well show the attitude of students and provide appropriate conditions for revision and development (4). Therefore, the present study aimed to identify strengths and weaknesses as well as to identify other issues in the educational environment of Behbahan Faculty of Medical Sciences so that the education administrators can get a correct picture of the conditions in the medical education environment, if necessary, to modify and improve the quality of education and medical services. Also, Therefore, the students' perception of the learning and educational environment was determined, which can be used for planning and evaluating future interventions.

Materials & Methods

This research is a descriptive-analytical cross-sectional study conducted at Behbahan Faculty of

Medical Sciences. The study population included the third and fourth year undergraduate nursing, operating room, radiology and anesthesiology students. Participants were selected using the convenience sampling method from students studying in nursing (N=29 people, men=20 and women=9), operating room (N=30 people, men=8and women=22), radiology (N=28 people, men=8 and women=20), and anesthesiology (n=28 people, women=18 and men=10). Data collection was carried out using DREEM, which was distributed to all students individually. The Persian version of this questionnaire and its validity and reliability were validated by Falah Khayeri Langroodi et al. (1). In their study, the factor analysis method was used to assess the validity, and the Cronbach's alpha coefficient calculation method was used to evaluate its reliability (α= 0.933).

DREEM consists of two parts. The first part contains questions on the personal characteristics of the students. The second part includes 50 questions on the students' attitude toward the educational environment, which is divided into five areas that have the students' perception of learning (12 questions, maximum score=48), the students' perception of their professors (11 questions maximum score=44), the students' perception of their academic ability (8 questions maximum score=32), the students' perception of the educational environment (12 questions maximum score=48), and finally the students' perception of their social conditions (7 questions maximum score=28).

The maximum score was 200 based on a 5-point Likert scale ranging from 0 to 4, namely, Completely agree (Score 4), Agree (Score 3), not sure (Score 2), Disagree (Score 1), and Completely disagree (Score 0) (1). In each area of the above questionnaire, the maximum scores were calculated for each area and the overall learning environment according to the number of questions. The higher scores indicate a more positive and desirable educational environment and vice versa. Considering the difference between the maximum score in each area and the overall score, the average score of each area was calculated as a percentage of its maximum score (4). Therefore, 0-25%, 25-50%, 50-75%, and 75-100% means very poor, non-optimal, optimal, and excellent ranges, respectively. To determine the validity, the questionnaire was given to ten experienced faculty professors (five people from the nursing department, two people from the operating room group, and three people from the radiology department). Then, its qualitative content was approved by applying very detailed corrections. To determine the questionnaire reliability, Cronbach's alpha coefficient was calculated. Therefore, this questionnaire was distributed among 30 study population participants, and its Cronbach's alpha coefficients were calculated. The overall reliability of DREEM was 0.90, and the educational environment dimensions, including learning, professors, self-academic capability, educational environment, and social conditions, were 0.81, 0.78, 0.73, 0.76, and 0.79, respectively. The Behbahan Faculty of Medical Sciences approved the present study with the code of ethics IR.BEN.REC.1399.35. To collect data, after providing sufficient explanations regarding the research objectives, the voluntary completion of the questionnaire, to ensure the confidentiality of the information, and to obtain verbal informed consent, the questionnaire was given to the students. The collected data were analyzed using SPSS ver. 16. The Shapiro-Wilk test showed normal distribution of the data. Descriptive statistics (prevalence, percentage, mean and standard deviation) were used to describe the characteristics of the data set, and one-way analysis of variance (ANOVA) was used to compare the attitudes of students of different disciplines about the educational environment (areas and overall score). P-value< 0.05 was considered the significance level.

Results

A total of 115 students, including 29 nursing students, 30 operating room students, 28 neurology students, and 28 radiology students, completed questionnaires. 80 (70%) of the studied subjects were female students. The mean ± SD of the participants was 23±4.8 years (range=19-29 years). The average overall score of the questionnaire and the average score in each

area, as well as the average score in each area as a percentage of the maximum score, are given in Table 1.

Table 1. The mean and standard deviation of the scores

Educational Environment(DREEM Model)	score percentage	Mean±SD
students' perception of learning	64%	31.1±3.7
students' perception of professors	79%	38.4±6.1
students' perception of their academic ability	66%	21.8±4.3
students' perception of the educational environment	79%	38.7±5.2
students' perception of their social conditions	71%	20.1±3.6
overall score of the questionnaire	75%	150.28±13.03

The average overall score of the learning and educational environment areas was 150.28±13.03 (76%). According to the score percentage, the students regarded the learning and educational environment as optimal. The lowest average score was related to Area 1 (students' perception of learning), and the highest average score was related to Area 2 (students' perception of professors) and Area 4 (students' perception of the educational environment) (Table 1). Also, one-way ANOVA was used to compare the average scores of the studied areas in different disciplines and showed a significant difference between the students of different fields in terms of some areas (Table 2).

Table 2. Comparing the average scores of the studied areas

Educational Environment(DREEM Model)	Nursing	Operating Room	Radiology	Anesthesia	Statistical significance
students' perception of learning	33.32	29.54	28.41	30.87	0.049
students' perception of professors	41.02	36.51	37.44	38.16	0.041
students' perception of their academic ability	25.29	18.66	20.04	21.30	0.051
students' perception of the educational environment	41.76	35.67	37.91	39.21	0.039
students' perception of their social conditions	23.16	18.88	20.65	19.33	0.12
overall score of the questionnaire	164.98	141.56	144.31	148.74	0.013

Discussion

Since all educational institutions attempt to improve the quality of clinical education environments through evaluation, the present study aimed to determine undergraduate students' perception of undergraduate students studying in Behbahan Faculty of Medical Sciences about the learning and educational environment using the DREEM questionnaire. The results showed that most students evaluated the faculty's educational environment as optimal. The results also showed that the overall average of the DREEM questionnaire for all studied fields was higher than 140, which indicates the positive attitude of the undergraduate students of Behbahan Faculty of Medical Sciences about the educational environment. Previous studies showed that an overall score of more than 100 in this questionnaire indicates an optimal educational environment (2, 18-21). Most previous research in different parts of the world showed that the overall

DREEM score range was between 101 and 139 (16). International studies show that top universities with a student-centered educational environment have a higher overall DREEM score.

The closest findings to the present study were observed in studies by Demiroren et al. at Ankara University Faculty of Dentistry, Abraham, et al. in India, Mohd et al. at the Islamic University of Malaysia, and Wang et al. on the perception of nursing students in China. In these studies, the range of the overall scores of the educational environment was between 117 (58.8%) and 132.48 (66%) (21-24).

Mohseni et al. also found that speech therapy students had an optimal attitude (71.44% of the maximum DREEM score) towards the educational environment of Hazrat Rasool Akram Hospital (15). Therefore, consistent with the studies conducted in various paramedical fields, the present study showed that students in the Behbahan Faculty of Medical Sciences have a positive attitude and an optimal educational environment. Consistent with the results of the present study, in a survey at Fahd University of Saudi Arabia, Al Ayed et al. reported that the lowest score was related to the learning dimension (40.69%) (19). Also, the highest overall score of the questionnaire was related to the educational environment dimension (79%) in the present study, which was consistent with the study by Soltani Arabshahi et al., in which the educational environment received a higher score than the learning and professor's dimensions (6). Brown et al. compared nine disciplines at Monash University of Australia and reported that the highest overall DREEM score belonged to nursing (140) and physiotherapy (138) (20). In our study, the overall DREEM score also belonged to the nursing field, which was more than 75% of the maximum score. This indicates that the educational environment is excellent, and the other studied disciplines (operating room, anesthesiology, and radiology) obtained more than 70% of the maximum score.

Therefore, since the educational environment of this faculty was optimal, it is necessary to identify areas that can be strengthened and developed to achieve an excellent educational environment. The results of studies by Shahbazi & Salimi (2000) at the School of Nursing and Midwifery of Shahid Sadoughi and Isfahan University revealed that clinical education was not optimal in 4 out of 5 dimensions from the point of view of 74% of the studied students. They had little satisfaction with their clinical educational environment, which is inconsistent with the present study. This discrepancy could be attributed to traditional educational methods used in previous years and, thus, students' negative attitudes towards the educational environment (25). In this respect, Levin et al., in a review study, showed a 20% percent increase in the quality of the clinical educational environment of nursing faculties in the whole world during the past 25 years. One of the most important factors that contribute to creating an optimal educational environment, especially in educational hospitals and clinical environments for training human resources, includes professor characteristics, including the ability to engage students in learning experiences and make them interested in course subjects (4). In the present study, the students reported that professors had very good teaching ability. Results showed that the highest mean score was related to the professors' dimension, which is consistent with the results of the studies by Mohd et al. at the Islamic University of Malaysia and Al-Hazimi et al. at Abdul Aziz University (23, 26). In a study, Mohd et al. investigated the role of a great professor in creating an effective learning environment for nursing students. These students scored 28.13 (64%) to the professor's dimension, which means they are moving on the right path. In the study by El Hazimi et al. at Abdul Aziz University, students scored 22 (50%) on the professors' dimension. Although the students had a positive attitude towards their learning ability and academic competency, this area obtained the lowest mean score among the remaining five areas. Paying attention to issues such as developing learning and problem-solving skills may effectively improve the students 'attitude towards their practical ability. The results of this study show that although the educational environment was optimal, there is a need to make changes in five areas to improve

the students' level of interest and capability. To improve the learning process, it would be fruitful to use new teaching methods such as problem-solving-based learning, students' engagement in lesson topics, etc., creating motivation in students to participate in classes and apply educational content (4, 12).

Educational workshops are also recommended to improve students' teaching and learning skills. Although the educational environment is optimal in the present study, some points should be considered. First, the educational environment of different disciplines is evaluated differently. There is a significant difference between the disciplines in the various areas of the educational environment, so the highest and lowest overall DREEM score was related to nursing and the operating room, respectively. In this regard, it is necessary to identify factors that cause students of different disciplines to have different perceptions regarding the educational environment so that we correct, promote, and improve the existing situation. This study has some limitations, such as the fact that it was conducted only in one faculty and on a certain number of academic disciplines, and caution should be exercised when generalizing the results to non-paramedical fields. It is suggested to carry out further studies on the educational environment in other universities to formulate educational macro-reform policies.

On the other hand, a self-reporting questionnaire was used; consequently, answers may not reflect the students' real views. Therefore, a qualitative study is recommended to support the research results. Finally, it is suggested to measure students' perception of educational environments regularly, for example, at the end of each academic year, to create a healthy and effective learning environment. It will be beneficial to use the results of the present study for strategic planning, allocation of resources, and assessment of students' views in future studies.

Conclusion

Since the educational environment strongly affects academic satisfaction and achievement, there has been increasing attention to the psychosocial environment of the teaching and learning environments. Therefore, the continuous evaluation of these environments is necessary. Generally, the results of the present research showed that the general educational environment of Behbahan Faculty of Medical Sciences was optimal from the viewpoint of most students but considering different results were obtained in various fields of study. Identifying nursing strengths and improving the educational environment of other fields is necessary. There is also a need to improve students' learning and academic abilities. To promote the learning dimension, new teaching methods such as problem-solving-based learning, students' engagement in course topics, motivating students to participate in classes, and applying educational content can be fruitful.

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Conflict of interest

The authors have no conflict of interest in this study.

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