MEDICAL EDUCATION (ORIGINAL ARTICLES)

EVALUATION OF EDUCATIONAL ENVIRONMENT OF NURSING UNDERGRADUATES BASED ON DREEM MODEL IN INSTITUTE OF NURSING, CMH LAHORE MEDICAL COLLEGE

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ABSTRACT

Objective: To assess the undergraduate nursing educational environment in Institute of Nursing, CMH Lahore Medical College.

Study Design: Descriptive (cross sectional) study.

Place and Duration of Study: Institute of Nursing, CMH Lahore Medical College from 01 December 2014 to 01 January 2015.

Material and Methods: The study was performed on 69 nursing students using the already validated Dundee Ready Education Environment Measure (DREEM) questionnaire (50 items on a 0-4 Likert scale). The items, as well as scale scores were compared among nursing students. Data was analyzed by SPSS 16 using one sample t test.

Results: The mean total score was 131.77 out of a maximum of 200 (SD 12.309) which corresponds to 65.88% of the maximum score indicating positively perceived environment. The sub-scale with the highest mean score was the Students' Perception of Learning for which the mean score was 32.61(SD 3.469) corresponding to 67.9% of the maximum score. The lowest mean score was for the Perceptions of the Atmosphere which was 29.61(SD 4.725) corresponding to 61.6% of the maximum score.

Conclusion: The present study revealed that all groups of nursing students perceived the learning environment highly positively. Nevertheless, the study also revealed areas of learning environment which can be improved further

Keywords: DREEM, Educational environment, Nursing students.

INTRODUCTION

In adult learning theories, teaching is not only about imparting knowledge but depends to a great deal on the climate for learning as well[1,2]. The learning environment of the institution can have a great impact on the students' progress, learning behavior and feeling of well being while undergoing the training program[3]. It also acts as the basis for the diagnosis of practices or situations within an institution making room for necessary modifications towards better educational practices[4].

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The Dundee Ready Education Environment Measure (DREEM) inventory was originally developed and validated by Roff et al[5] in between 1994 -1996 by a Delphi panel of about 100 medical and health profession educators from several countries enrolled in various courses in the Medical Education Centre in Dundee, Scotland, UK. It has proven to be a highly reliable validated inventory in various cultures and countries around the world for the assessment of the learning environment of health professionals and medical schools[6-9].

This current study was undertaken in order to assess the educational environment at the Institute of Nursing using DREEM inventory and to identify the gaps and weaknesses of the existing educational environment so as to suggest

feasible and appropriate remedies. Also, many of the findings may imply parallel trends for other nursing institutions. The study might generate useful data for future DREEM studies in other educational institutions that involve nursing and health science students, on which they can make comparisons with their own programs.

MATERIAL AND METHODS

The DREEM questionnaire consists of 50 items, each scored 0–4 on a 5–point Likert scale (4 = strongly agree, 3 = agree, 2 = uncertain, 1 = disagree and 0 = strongly disagree). However, 9 of the 50 items (numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50) were negative statements and should be scored in reverse manner. The maximum overall DREEM score is 200.(10) However, for all items, results should be presented so that the higher a score the more positive is the reading (a more favorable educational environment) and vice-versa.

Specific strengths and weaknesses of the education climate can be assessed with the help of DREEM inventory[5]. In addition to the overall "score" for the course, the questionnaire statements may also be subdivided to provide an indication of student perceptions of five major domains of educational environment; perception of learning (12 items/maximum score 48), perception of teacher (11 items/maximum score 44), academic self-perception (8 items/ maximum score 32), perception of atmosphere (12 items/maximum score 48), and social self-perception (7 items/maximum score 28).

This study was conducted using a descriptive survey design method. The study was carried out at the Institute of Nursing from 01 December 2014 to 01 January 2015 after approval by the Ethical Review Committee and the Research Cell of CMH Lahore Medical College. The participants were all students (N=69) who had enrolled in the Institute of Nursing for the Nursing program. Participants were ensured that all data collected for the study would remain anonymous. Before the administration of the questionnaire, the students were addressed regarding the purpose of the study and the process of collecting data. It was also explained to them that the generated data would be used for quality assurance in addition to research purpose. The co-operation of students was requested. The DREEM inventory, in the English language with an accepted validity and reliability was used to collect data including the student's demographic characteristics (age, year of enrolment, ethnicity and marital status). The questionnaires were distributed to students towards the end of a lecture. The process was facilitated by a teaching staff member who collected the completed surveys.

Analysis of data was performed using SPSS v.16. Descriptive statistics were applied to present the frequency distribution and percentages of socio demographic data of the students. Scores for categorized domains of the inventory were expressed as means and standard deviation (SD); One sample t-test was utilized to identify the significance of the subgroups. p value < 0.05 was considered as statistically significant.

RESULTS

There were 69 students enrolled in the nursing programs of the Institute of Nursing. All of them participated in the study completing the questionnaire giving a response rate of 100%. All of the respondents (100%) were single females of Pakistani origin. Their ages ranged from 18 to 27 years with a mean age of 21 years (SD 1.89).

Nursing students' overall mean DREEM score was 131.77/200(SD 12.309) which indicates a more positive than negative learning environment. The subscale comparison done between the 1st year and the 3rd year students revealed a higher overall score for 3rd year of 137.143(SD 5.768) as compared to 1st year of 136.48(SD 15.145). The scores for perception of teacher and academic self-perception were comparable while the scores for perception of learning and social self perception were higher in the 3rd year students. However, the perception of atmosphere was found to be higher in 1st year students as compared to the 3rd year.

Overall, the domains of perceptions of learning, perceptions of teachers, academic self the perception of atmosphere indicated the students' feelings to have more attention paid

Table-1: Demographic parameters of the participants of the DREEM study (N=69)

PARAMETER	n (%)
Categories of enrolled students	
First year(Generic BS Nursing Degree Program)	25 (36.23)
Second year(Diploma General Nursing)	25 (36.23)
Third year(Diploma General Nursing)	14 (20.29)
Fourth year(Midwifery Trainees)	5 (7.25)
Age (in years)	
17-20	30 (43.47)
21-24	33 (47.83)
25-30	6 (8.70)
Total	**69**

Table-2: Nursing students' perception of educational environment based on the DREEM inventory and its interpretation(N=69)

DREEM Subscales	Mean (SD)	*p* value	Interpretation
Perception of learning (max 48)	32.61 (3.469)	0.001	A more Positive perception
Perception of teachers (max 44)	28.14 (2.515)	0.001	Moving in the right direction
Academic self-perception (max 38)	23.86 (2.614)	0.001	Feeling more on the positive side
Perception of atmosphere (max 48)	29.61 (4.725)	0.001	A more positive attitude
Social self-perception (max 28)	17.55 (2.72)	0.001	Not too bad
Total DREEM score (max 200)	131.77 (12.309)	0.001	More positive than negative

Results presented as mean (SD); one sample t-test applied

Table-3: Mean (SD) values among 1st year and 3rd year nursing students' and their interpretation (N=39)

DREEM subscales with max value	1st year n=25	3rd year n=14	Overall n=39	Interpretation
Perception of learning (max 48)	33.2 (3.878)	34.286 (3.369)	33.590 (3.740)	A more Positive perception
Perception of teachers (max 44)	28.6 (2.939)	28.286 (1.485)	28.487 (2.520)	Moving in the right direction
Academic self-perception (max 38)	24.72 (3.144)	24.429 (2.470)	24.615 (2.923)	Feeling more on the positive side
Perception of atmosphere (max 48)	32.16 (5.198)	30.571 (2.095)	31.590 (4.413)	A more positive attitude
Social self-perception (max 28)	17.8 (3.347)	19.571 (2.060)	18.436 (3.070)	Not too bad
Total DREEM score (max 200)	136.48 (15.145)	137.143 (5.768)	136.718 (12.612)	More positive than negative

perceptions and social self perceptions were all in the satisfactory range while the lowest score for towards the betterment of the atmosphere.

DISCUSSION

Following the establishment of the Nurses Training schools to meet the increasing demand for nurses since 1947, little attention, if any, has been paid to how the students feel about and participate in the courses during the period of their study programs[11]. Recently, however, this issue has gained some attention. Structured training for Diploma in General Nursing was started in 1979 at the School of Nursing, CMH Lahore Medical College which was upgraded for BSc Nursing Degree Program as Institute of Nursing in January, 2014. To our knowledge, this is the first study assessing the educational environment of this nursing institute using DREEM inventory. Students were interested in completing the inventory, as evidenced by the excellent response rate (100%). The overall mean DREEM score in our study was found to be 131.77/200 (n=69) which is 65.88% of the maximum score (200). According to the practical guide of Roff[5], this indicated a positive rather than a negative educational environment.

The result in our study 131.77 is higher than the scores (125) found in a large scale study done in medical colleges of Punjab[12]. The overall score for the nursing schools in China is 132.48 which is comparable with our study[13].Our scores are higher than those found in Sri Lanka (109), Iran (114.3), and Malaysia (120.12)[14,15,11]. The mean score for India has been reported to be 107.44 and 117[16,17]. One of the studies has showed a score of 128.89 for medical studentsin USA[18].High overall mean scores include 143.9 of Umm AI-Qura University of Saudi Arabia[19] followed by the results of a series of UK learning environment studies (142.91) recorded in educational hospital centers[20].

However, no learning environment can be completely free of weaknesses. The subscales are important for determining the areas for further remedial measures[5]. The comparison between the first and third year students revealed that the third year students had higher perception of learning and social self perception attributable to their confidence gained during the period of study. The low scores of the first year could be due to the uncertainties and difficulties faced in the initial period. However, their higher scores for the perception of atmosphere could be either due to the inexperience or the enthusiasm and high levels of interest with which they come to the institute.

Our overall lowest mean scores for perceptions of atmosphere indicated that there was still room for improvement although the students were well satisfied with their accommodation facilities. The results though highly encouraging, should also be stimulating in order to transform the educational environment of the institute to a higher level.

The major limitation of our study is the sample size and frame that is limited to only one nursing institute. The results thus obtained cannot be a representative of all the nursing institutes of the region or country. Further studies should be carried out in other nursing and medical schools to gather more data regarding the students' opinions about the learning environment.

CONCLUSION

The participants assessed the educational environment as positive. Improvements are required in the atmosphere of the institute to create a high quality educational environment. Taking feedback from the students on their perceptions of atmosphere in the form of focus group discussion can help improve the learning environment. Our recommendations include the need for the creation of a more supportive and conducive environment, in order to adequately meet the upcoming challenges in health care profession.

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CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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