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ORIGINAL RESEARCH

Nursing Students' Perception of the Educational Environment in a Public University in Ahvaz, Iran: A Study Based on DREEM Questionnaire

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Abstract

Background: Students' perception of educational environment is an important factor in evaluating the quality of education as it provides invaluable resources to identify the strengths and weaknesses of educational environment. However, there is a paucity of information regarding the educational environment from the perceptions of nursing students in Iran.
Purpose: This study aimed to investigate nursing students' perception of the educational environment and compare the male and female students' perceptions of the educational environment in a public university in Ahvaz, Iran.
Methods: A cross-sectional study was conducted among 130 nursing students in a public university in Ahvaz, Iran, using the Dundee Ready Educational Environment Measure (DREEM) questionnaire. Convenient sampling was used to recruit the samples. For the data analysis, the independent t-test was utilized.
Results: The overall mean (SD) DREEM score in this study was 105.01(22.00), indicating a more positive educational environment than negative. The highest mean (SD) DREEM score was related to *Students' Perceptions of Learning* domain 24.03(6.01), while the lowest one was related to *Students' Social Self-Perceptions* domain 14.01(4.00). The female students showed significantly better mean score in the domains of *Students' Academic Self-Perception* and *Students' Social Self-Perception* than males ($p<0.05$).
Conclusion: The students' perception of their educational environment is a positive and optimistic one. Therefore, it is suggested that students' perceptions of the educational environment be measured regularly, for instance, at the end of each academic year, to create a healthy and effective environment for learning in the educational environment.

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1. Introduction

In recent years, in order to improve the quality of nursing education, attention to the views and perceptions of nursing students as one of the main stakeholders of the nursing education program has grown significantly (Shrestha et al., 2019). The educational environment is one of the most effective factors in the quality of education and consequently in the quality of learning of nursing students (Akdeniz et al., 2019). In this regard, several learning theories have pointed to the relationship between learning and the educational environment; one of the most famous of which is the theory of experiential learning (Rawas & Yasmeen, 2019). According to the experiential learning theory, the educational environment is an important factor in the teaching-learning process that can have a tremendous impact on students' learning outcomes (Kolb, 1984).

The educational environment refers to various physical sets, contexts, and values in which students receive an education. Significant effects of educational environment on knowledge, attitude, and skills of medical students were mentioned in several studies (Patil & Chaudhari, 2016; Akdeniz et al., 2019). Approximately 50% of nursing school's time is devoted to clinical

activities. In the clinical environment, focusing on the student's learning needs and creating an appropriate learning environment should be allowed to progress and ensure their competence in clinical skills (Victor et al., 2017). Nowadays, in the clinical education environment, variables such as the content of the delivered curriculum, teaching methods, and the students who graduate as manpower from the university affect clinical education. At the same time, the impact of the educational programs can be provided through the learning environment (Frothagh & Gourchian, 2019). Emanuel and Pryce-Miller (2013) introduced the appropriate clinical environment as an essential part of nursing education. Furthermore, Kaphagawani and Useh (2013) also suggested that students have opportunities to practice what they have learned in theoretical classes in a clinical setting. In their study, they refer to the guided clinical environment as a supportive environment with good communication. Therefore, more attention and importance to clinical education in nursing and awareness of its concepts, obstacles, and problems has a significant impact on students' learning and acceptance of the professional role of nursing (Bjerkvik & Hilli, 2019).

According to the World Federation of Medical Education (1998), one of the main tools for evaluating the success or failure of a medical education program is to evaluate the educational environment. Therefore, in order to identify the strengths and weaknesses of the educational environment of an educational institution, regular evaluation of the educational environment is very important (Kaur et al., 2021). In addition, students' perceptions regarding their educational environment play important role in developing and reforming the nursing curriculum (Bakhshialiabad et al., 2019). Nursing students' perception of their educational environment has been reported in many studies. For instance, the results of a study in Sri Lanka showed that nursing students' perceptions of their educational environment were more positive than negative (Jayaweera et al., 2021). The results of a study conducted in Eastern Nepal also showed that nursing students' perceptions of their educational environment were positive (Shrestha et al., 2019). While in a study in Saudi Arabia, nursing students revealed the positive and negative aspects of their learning environment (Rawas & Yasmeen, 2019). A previous study also revealed that there was a positive correlation between students' perception of the educational environment and their gender discrepancies (Kaur et al., 2021).

Several methods have been used by medical educators to assess and analyze students' perceptions about the specific educational environment in medical institutes, such as Learning Environment Questionnaire (LEQ), Learning Environment Assessment (LEA), Medical School Environment Inventory (MSEI), Learning Environment Survey (LES), and Dundee Ready Educational Environment Measure (DREEM). DREEM inventory is one of the most practical and widely used tools for evaluating educational environments, including theoretical and clinical environments (Jeyashree et al., 2018). The DREEM is specifically designed to measure the undergraduate medical and nursing educational environment (Salih et al., 2018).

Nursing is one of the most important branches of medical sciences that require scientific and professional skills at high levels. One of the scientific methods to evaluate the quality of clinical education in this field is to examine the opinions and views of students in this field as the main stakeholders of such education (Yoo & Kim, 2019). As medical teachers, the educators are continuously thinking about improving medical education or curriculum by adding or modifying teaching and learning methods. However, students' views on these aspects can provide significant and beneficial information concerning the strengths and weaknesses of the educational environments. This is especially useful for nursing students who spend much of their activities in the clinical education environment.

Although in many studies, students' perceptions of the educational environment have been reported (Shrestha et al., 2019), in Iran, only two nursing schools in Tehran (Imanipour et al., 2015) and Rafsanjan (Hamid et al., 2013) studied the perception of nursing students toward the educational environment. Therefore, there was a paucity of information regarding this issue in many nursing schools in Iran, including Ahvaz. Also, based on the knowledge of the authors of this study, no study was found that focused on the perception of third and fourth-year nursing students regarding the educational environment. For this reason, the researchers in this study decided to evaluate the perceptions of third and fourth-year nursing students, instead of the first and second ones, about their educational environment. It was with a consideration that these students have spent more time in the clinical educational environment than first and second-year students and, therefore, have a more comprehensive view of their clinical and theoretical

educational environment. Accordingly, this study was conducted to seek the perceptions of nursing students toward their educational environment in a public university in Ahvaz, Iran.

2. Methods

2.1 Research design

The present study used a cross-sectional, questionnaire-based study design.

2.2 Setting and samples

This study was conducted in a public university in Ahvaz, Iran in the academic year of 2017-2018. For this study, the online Raosoft sample size calculator was used to estimate the sample size (Al-Balas et al., 2020). In the university where the study took place, with a total of third and fourth-year nursing students of 198, and based on a 50% response distribution, a confidence interval of 95%, and a margin of error of 5%, the most extensive required sample size is 130. Therefore, 130 undergraduate nursing students from the 5th, 6th, 7th, and 8th semesters were selected by convenience sampling. The inclusion criteria were the enrolled nursing students in their third and fourth-years in the academic year of 2017-2018. Students who had filled the questionnaire incompletely and those who were guest students were excluded from the study.

2.3 Measurement and data collection

This study utilized the DREEM questionnaire as one of the tools developed specifically to assess the educational environment of medical institutions as perceived by the students (Bakhshialiabad et al., 2019). DREEM consists of 50 items, where each answer was given a point based on a five-point Likert scale (strongly disagree = 0, disagree = 1, unsure = 2, agree = 3, strongly agree = 4). Out of a total of 50 questions, nine negative items were scored in a reverse manner before analysis and interpretation (items 4, 8, 9, 17, 25, 35, 39, 48, and 50) (Bakhshialiabad et al., 2019). Demographic information, including age and gender, was added to the questionnaire.

The maximum score for the overall DREEM is 200, and the following five domains:
(1) the maximum score for the Students' Perceptions of Learning (SPL) is 48;
(2) the maximum score for the Students' Perceptions of Teachers (SPT) is 44;
(3) the maximum score for the Students' Academic Self-Perceptions (SASP) is 32;
(4) the maximum score for the Students' Perceptions of the Atmosphere (SPA) is 48;
(5) the Students' Social Self-Perceptions (SSSP): 7 items; maximum score is 28.
The interpretation of the DREEM questionnaire is detailed in Table 1.

Previous studies have assessed the face and content validity of the DREEM questionnaire (Roff et al., 1997; Soltani Arabshahi et al., 2008). Cronbach's alpha coefficient was used to determine its reliability (determination of internal consistency), and the total reliability of the questionnaire was reported to be 0.89. In this study, the Farsi version of the DREEM questionnaire from Koohpayehzadeh et al. (2014) was used. The validity and reliability of the Persian version of the DREEM questionnaire were assessed. The content validity index (CVI) was 0.39, and the mean of test-retest reliability of was 0.71; the consistency reliability was in an acceptable range (Koohpayehzadeh et al., 2014).

2.4 Data analysis

Data were analyzed using the statistical package SPSS version 21.00 (IBM Corp., Armonk, USA). To define the sample, variables were expressed as mean and standard deviation, median (minimum-maximum), and categorical variables such as number and percentage. The independent sample t-test was used for comparative analysis of the differences between the males and the females. $P<0.05$ was considered to be significant. The numerical differences between the males and the females were analyzed with the independent t-test.

2.5 Ethical considerations

The ethical approval of the study was obtained from the research committee of Ahvaz Jondishapur School of Nursing and Midwifery (IR.AJUMS.REC.1396.61). The study materials included a personal characteristics information sheet, a consent form, and questionnaires were distributed to each nursing student during break time. The researcher explained the aim of the present study to the nursing students. Students were asked to read and sign an informed

consent form before completing the questionnaire. The participation of all students was voluntary basis.

Table 1. Score interpretation of mean subscales and total DREEM scores

Area	Score	Interpretation
Total DREEM score	0-50	Very poor
	51-100	Significant problems
	101-150	More positive than a negative
	151-200	Excellent
Perception of learning	0-12	Very poor
	13-25	Negative view of teaching
	25-37	More positive than negative view
	37-40	Teaching highly regarded
Perception of teaching	0-11	Very poor
	12-22	Re-education required
	23-33	Moving in the right direction
	34-44	Model Instructors
Academic self-perception	0-8	Feelings of total failure
	9-16	Many negative aspects
	17-24	More positive than negative perception
	25-32	Confident
Perception of atmosphere	0-12	Very poor environment
	13-24	Many issues need changing
	25-36	More positive than negative attitude
	37-48	Good feeling overall
Social self-perception	0-7	Miserable
	8-14	Negative perception
	15-21	More positive than negative
	22-28	Very good perception
Individual items (non-negative)	<2	Problem area
	2-3	Could be enhanced
	3-3.5	Positive aspect
	>3.5	Excellent

3. Results

3.1 Socio-demographic and DREEM questionnaire profile of nursing students

As many as 130 nursing students participated in the study. The mean age of the participants was 21.84(1.31) years. Furthermore, 84 (64%) of students were females, and 46 (35%) of them were males.

As presented in Table 2, the mean overall DREEM score was 105.01(22.00). The perception of the male nursing students toward their educational environment was more positive than female nursing students, but the differences were not statistically significant (p=0.097). The result of these scores reveals that students' perceptions about their educational environment are more positive than negative. According to the results in Table 2, students did not give any item a score ≥3. In the SPL subscale, students scored 6 out of 12 items (items 1, 7,13, 24, 25, 48), in the SASP subscale, 2 out of 8 items (items 21, 26), in the SPA subscale, 4 out of 12 items (items 11, 12, 17, 42), and in the SSSP subscale 3 out of 7 items (items 3, 4, 14) less than 2.

3.2 Students' perception of educational environment based on the gender

Regarding the educational environment, the male students' perceptions were more positive than the female students' perceptions, but this was not statistically significant (p=0.097). Regarding the students' perception of atmosphere, the female students' perceptions were statistically more than the male students' perceptions (p=0.025). However, student's social self-perception of male students was comparatively better than female students (p=0.046). Table 3 presented the comparison of score between male (n=46) and female (n=84) nursing students.

Table 2. Analysis of all items of the DREEM questionnaire and their interception

According to subscales	Male	Female	Total	Interception
	Mean(SD)	Mean(SD)	Mean(SD)	
Subscales 1: Students' Perceptions of Learning Total score: 24.03(6.0)				
1. I am encouraged to participate in Class	2.04(1.00)	1.01(1.07)	1.01(1.09)	Problem area
7. The teaching is often stimulating	1.00(1.03)	1.01(1.08)	1.09(1.02)	Problem area
13. The teaching is student-centered	1.02(1.01)	1.00(0.00)	1.03(1.07)	Problem area
16. The teaching helps to develop my competence	2.06(1.02)	2.03(1.07)	2.00(1.09)	Could be enhanced
20. The teaching is well focused	2.00(0.00)	2.01(0.00)	2.05(0.00)	Could be enhanced
22. The teaching helps to develop my confidence	2.01(1.07)	1.00(1.02)	2.03(1.05)	Could be enhanced
24. The teaching time is put to good use	2.02(1.01)	1.00(1.09)	1.01(1.01)	Problem area
25. The teaching over-emphasizes factual learning	1.03(1.02)	2.08(0.00)	1.03(1.05)	Problem area
38. I'm clear about the learning objectives of the course	2.00(1.09)	2.01(0.00)	2.06(0.00)	Could be enhanced
44. The teaching encourages me to be an active learner	2.07(1.05)	2.07(0.00)	2.04(0.00)	Could be enhanced
47. Long term learning is emphasized over short term learning	2.01(1.06)	2.04(0.00)	2.02(0.00)	Could be enhanced
48 The teaching is too teacher-centered	1.00(0.00)	1.08(0.00)	1.01(0.00)	Problem area
Subscales 2. Students' Perceptions of Teachers Total score: 24.0(5.0)				
2. The teachers are knowledgeable	2.02(1.01)	2.00(1.02)	2.04(1.07)	Could be enhanced
6. The teachers adopt a patient-centered approach to consulting	2.05(1.00)	2.08(0.00)	2.05(1.03)	Could be enhanced
8. The teachers ridicule the students	2.01(1.06)	2.02(1.07)	2.00(1.01)	Could be enhanced
9. The teachers are authoritarian	2.06(1.06)	2.09(0.00)	2.02(0.00)	Could be enhanced
18. The teachers have good communication skills with patients	2.01(1.00)	2.05(1.02)	2.03(1.09)	Could be enhanced
29. The teachers are good at providing feedback to students	2.08(1.01)	1.04(0.00)	2.01(1.07)	Could be enhanced
32. The teachers provide constructive criticism here	2.07(1.05)	2.05(0.00)	2.09(1.03)	Could be enhanced
37. The teachers give clear examples	2.03(1.09)	2.06(0.00)	2.01(0.00)	Could be enhanced
39. The teachers get angry at teaching	2.03(1.01)	2.05(0.00)	2.06(1.01)	Could be enhanced
40. The teachers are well-prepared for their teaching sessions	2.02(1.02)	2.07(0.00)	2.03(1.05)	Could be enhanced
50. The students irritate the teachers	2.02(1.00)	2.05(1.08)	2.01(1.00)	Could be enhanced
Subscales 3. Students' Academic Self-Perceptions Total score: 17.0(4.0)				
5. Learning strategies that worked for me before continue to work now	1.00(1.09)	2.01(1.04)	2.04(1.01)	Could be enhanced
10. I am confident about my passing this year	2.06(1.05)	2.02(1.06)	2.05(1.00)	Could be enhanced
21. I feel I am being well prepared for my profession	2.02(1.04)	1.01(1.09)	1.02(1.03)	Problem area
26. Last year's work has been a good preparation for this year's work	1.03(1.00)	1.02(0.00)	1.01(1.04)	Problem area
27. I am able to memorize all I need	2.03(1.02)	2.01(1.01)	2.05(1.01)	Could be enhanced
31. I have learnt a lot about empathy in my profession	2.01(1.01)	2.05(0.00)	2.06(0.00)	Could be enhanced
41. My problem-solving skills are being well developed here	2.08(1.01)	2.07(2.02)	2.09(0.00)	Could be enhanced

Table 2. Continued

According to subscales	Male	Female	Total	Interception
	Mean(SD)	Mean(SD)	Mean(SD)	
45. Much of what I have to learn seems relevant to a career in health	2.05(1.03)	2.05(0.00)	2.01(1.01)	Could be enhanced
Subscales 4. Students' Perceptions of Atmosphere				
Total score:24.0(5.0)				
11. The atmosphere is relaxed during ward teaching	1.00(1.00)	1.02(0.00)	1.01(1.04)	Problem area
12. This school is well time-tabled	1.04(1.05)	1.01(1.01)	1.04(1.01)	Problem area
17. Cheating is a problem in this school	1.02(1.01)	1.05(1.03)	1.06(1.03)	Problem area
23. The atmosphere is relaxed during lectures	2.05(0.00)	2.03(0.00)	2.02(0.00)	Could be enhanced
30. There are opportunities for me to develop my interpersonal skills	2.03(1.01)	2.04(0.00)	2.03(1.00)	Could be enhanced
33. I feel comfortable in class socially	2.03(1.00)	2.06(0.00)	2.07(1.05)	Could be enhanced
34. The atmosphere is relaxed during class/seminars/tutorials	2.06(1.01)	2.07(0.00)	2.09(0.00)	Could be enhanced
35. I find the experience disappointing	2.09(1.08)	2.03(0.00)	2.04(0.00)	Could be enhanced
36. I am able to concentrate well	2.07(1.03)	1.01(1.04)	2.03(1.09)	Could be enhanced
42. The enjoyment outweighs the stress of the course	1.01(1.02)	1.09(0.00)	1.05(1.02)	Problem area
43. The atmosphere motivates me as a learner	1.00(1.06)	2.02(0.00)	2.00(1.01)	Could be enhanced
49. I feel able to ask the questions I want	2.01(1.01)	2.02(0.00)	2.06(1.04)	Could be enhanced
Subscales 5. Students' Social Self-Perceptions				
Total score: 14.0(4.0)				
3. There is a good support system for students who get stressed	1.02(1.00)	1.00(0.00)	1.01(1.01)	Problem area
4. I am too tired to enjoy the course	1.00(1.07)	1.05(1.01)	1.03(1.01)	Problem area
14. I am rarely bored in this course	1.05(1.02)	1.01(1.02)	1.04(1.03)	Problem area
15 I have good friends in this course	2.03(1.01)	2.09(1.05)	2.01(1.05)	Could be enhanced
19. My social life is good	2.01(1.08)	2.03(0.00)	2.01(1.02)	Could be enhanced
28. I seldom feel lonely	2.01(1.05)	1.02(1.06)	2.02(1.03)	Could be enhanced
46. My accommodation is pleasant	1.03(1.08)	2.02(1.07)	2.09(1.02)	Could be enhanced
Total mean score: 105.01(22.0)				

Note: M=Mean; SD=Standard Deviation

Table 3. Comparison of percentage scores of the DREEM scale and subscale

DREEM domain (Ideal mean score)	Gender	Mean(SD)	Median	Min	Max	*p*-value[a]
Students' perception of learning (48)	Male	24.03(7.01)	25	8	40	
	Female	23.01(6.05)	24	3	38	0.094
Students' perception of teachers (44)	Male	25.04(6.00)	26	8	39	
	Female	24.06(4.02)	25	11	31	0.087
Students' academic self-perception (32)	Male	17.01(4.04)	18	0	28	
	Female	18.04(4.01)	18	9	31	0.025*
Students' perception of atmosphere (48)	Male	25.07(6.03)	26	9	41	
	Female	23.08(5.01)	24	8	36	0.099
Students social self-perception (28)	Male	15.02(5.04)	26	9	41	
	Female	23.07(5.02)	24	8	36	0.046*
Overall maximum mean score (200)	Male	108.03(27.04)	107	33	171	
	Female	103.01(20.05)	105	47	163	0.097

[a] independent t-test

3.3 DREEM's subscales interpretation

To analyze the subscales of the DREEM questionnaire, we used the score interpretations suggested by Roff et al. (1997). In this regard, 61% of students believed that their learning environment was positive (59% more positive than negative and 2% excellent). Nevertheless, 36% of students said that their learning environment has significant problems. Furthermore, eventually, only 1% of students thought that their learning environment was very poor. Table 4 shows the analysis of the students' responses to the subscales.

Table 4. Mean scores according to the total and subscales of the DREEM, and interpretation of the DREEM subscales

Total and subscales of DREEM	Mean(SD)	Median (Min-Max)	İnterpretation of subscale (Min-Max)	f(%)
Total score of all	105.01(22.00)	106	Very poor (0–50)	2(1)
(Max score: 200)		(33-171)	Significant problem (51–100)	48(36)
Score (%)	52.5%		More positive than negative (101–150)	77(59)
			Excellent (151–200)	3(2)
Students'	24.03(6.01)	24	Very poor (0–12)	9(6)
Perceptions of		(3-40)	Negatively viewed teaching (13–24)	56(43.1)
Learning			A more positive perception (25–36)	59(45)
(max score 48)			Teaching highly regarded (37–48)	6(4)
Score (%)	50.6%			
Students'	24.02(5.01)	26	Abysmal (0–11)	2(1)
Perceptions of		(8-39)	In need of some retraining (12–22)	37(28)
Teachers			Moved the right direction (23–33)	85(65)
(max score 44)			Model teachers (34–44)	6(4)
Score (%)	54.54%			
Students' Academic	17.06(4.02)	17	Feeling of total failure (0–8)	1(0)
Self-Perceptions		(0-28)	Many negative aspects (9–16)	47(36)
(max score 32)			Feeling more on the positive side (17–24)	75(57)
Score (%)	53.12%		Confident (25–32)	7(5)
Students'	24.04(5.01)	24	Very poor environment (0–12)	3(2)
Perceptions of		(8-41)	Many issues need changing (13–24)	67(51)
Atmosphere			A more positive attitude (25–36)	57(43)
(max score 48)			A good overall feeling (37–48)	3(2)
Score (%)	50%			
Students' Social	14.01(4.00)	15	Miserable (0–7)	10(7)
Self-Perceptions		(0-26)	Not a nice place (8–14)	50(38)
(max score 28)			Not too bad (15–21)	65(50)
Score (%)	50%		Very good socially (22–28)	5(3)

4. Discussion

This study aimed to evaluate the perceptions of nursing students about their educational environment in a public university in Ahvaz, Iran. The researchers selected the 3rd and 4th year nursing students since these students spend most of their time in the clinical environment, and therefore, they had a more comprehensive view of the clinical and theoretical educational environment.

The overall score for all subscales of DREEM in this study came out to be 105.01(22.00). The present study revealed that the overall mean score of nursing student perception towards their educational environment was within the "more positive than negative" category. Therefore, the present findings showed that the educational environment from the perception of nursing students is only one step away from the excellent category. The findings of the current study were comparable to those of the DREEM studies among nursing students in Egypt (115.00) (Abusaad et al, 2015), Palestine (113.10) (Alhajjar & Daf, 2013), and Pakistan (119.00) (Victor et al., 2017), and lower than studies conducted in Indonesia (131.00) (Rochmawati et al., 2014), Sri Lanka (127.10) (Jayaweera et al., 2021) and Tajikistan (133.40) (Schubiger et al., 2019). In contrast to the results of this paper, a study conducted in Egypt (Sharkawy et al., 2013) among nursing students showed poor perception towards their learning environment. However, no

study was found to report excellent nursing students' perceptions of their educational environment. In the above-mentioned studies, an attempt has been made to investigate the educational environment of nursing students in different countries. It seems that this difference in DREEM sub-scales scores can be attributed to cultural and geographical differences, the amount of educational and clinical facilities available in those countries, different teaching styles and approaches among teachers in these countries, and even differences in the expectations of nursing students.

Personal items analysis is one of the crucial and interesting applications of the DREEM questionnaire. This directly reveals the strengths and weaknesses of various aspects of the educational environment (Altemani & Merghani, 2017). Explaining the strengths and weaknesses of the learning environment plays an important role in amplifying the educational environment of nursing students in their curriculum (Farooq et al., 2018). The final outcome of this action is the efficacy and expertise of nursing students to provide health care services at the highest standard level. The overall response of the nursing students to the "Students' Perceptions of Learning" (SPL) was 24.03 out of a total score of 48 indicating a more positive perception of this domain. Although the scores were not far from the negative attitude towards teaching, it seems that the students had relatively good experiences with the teaching methods of the teachers. The item with the lowest score in the field of learning was item number 48 (the teaching is too teacher-centered). In this regard, it can be said that in the teacher-centered education strategy, students will not be actively involved in the teaching-learning process, and this process will be adopted in such a way that the teacher will transfer a large amount of information to the students. Similar results have been reported for students' negative attitudes toward the teacher-centered of learning domain (Palés et al., 2015).

Students' Perception of Teachers (SPT) was the second domain, and the response of nursing students to this domain was 24.02 out of a total score of 44, and with respect to the DREEM inventory's interpretation regarding this domain, students realized that teachers are on the right path in teaching the nursing students. Students' scores in any of the items in this domain were not higher than 3 and less than 2, which indicates that although the students' perception of the teachers' communication, teaching, and soft skills were not so negative, it is necessary that the teachers enhance their competencies in these cases. As nursing students encounter patients in different clinical settings, the teacher should act as a role model for nursing students and help them to have high-quality patient care (Utami et al., 2020). These results highlight the need for faculty development programs to improve teaching skills. The findings of this study were in line with the findings of studies conducted in Eastern Nepal (Shrestha et al., 2019) and Sri Lanka (Jayaweera et al., 2021) in which nursing students also had a relatively positive perception of their teachers.

Students' Academic Self-Perceptions (SASP) was the third domain, and the response of nursing students to this domain was 17.06 out of a total score of 32, indicating moderate scores, which need further improvement. The item with the lowest score in the domain was item number 21 *(I feel I am being well prepared for my profession).* This is an item that should be given special attention because, in the present study, the perceptions of the third and fourth-year nursing students were evaluated, and this means that these students are not yet ready to take on all the duties and responsibilities of a nurse. It seems that the annual admission of a large number of nursing students from the Ministry of Health in Iran and the lack of appropriate facilities and equipment are among the factors that affect nursing students' well-prepared for their profession. The results of this study contradicted the findings of a study conducted in Saudi Arabia (Rawas & Yasmeen, 2019). It seems that the better economic situation of Saudi Arabia than Iran, which provides more up-to-date facilities and equipment for nursing students in Saudi Arabia, is effective in creating this difference.

The response of nursing students toward the Students' Perception of Atmosphere (SPA), and Students' Social Self-Perception (SSSP), respectively, were 24.04 out of 48, and 14.01 out of 28 indicating moderate scores, which need further improvement. Item 46 (accommodation) of Students' Social Self-Perception (SSSP) has the highest score among all items in the SSSP domain. Similar findings have been reported in various studies (Al-Mohaimeed, 2013; Palés et al., 2015). Regarding the "accommodation" item, it seems that the existence of a warm and friendly relationship between students can solve their theoretical and clinical problems through Team-Based Learning (TBL), Problem-Based Learning (PBL), and peer instruction. While item

3 *(There is a good support system for students who get stressed)* had the lowest score under the SSSP domain; the finding of this study was consistent with the results of other studies (Al-Mohaimeed, 2013; Altemani & Merghani, 2017).

In the current study, the mean overall DREEM score between the two genders was not statistically significant. This was consistent with the finding of the study conducted by Soliman et al. (2017) and inconsistent with the findings among Nigerian students that the mean DREEM score of males was significantly higher than females (Roff et al., 2001). Probably having their own learning style and lack of identical perception of educational courses are the main causes of gender differences in the findings of the above studies.

5. Implications and limitations

The present study provides beneficial comprehension about the educational environment as perceived by the nursing students. Ensuring that students' perception of the educational environment is incorporated in developing a holistic curriculum and improving teaching and assessment strategies in order to enhance students' clinical competencies are among the issues that universities and policymakers need to address.

Some limitations in this study deserve our special attention. First, using a cross-sectional questionnaire-based study design is the main limitation of the current study, which may affect the generalizability of the findings. Therefore, longitudinal studies or randomized controlled trials are needed to further studies. Second, the current study used the self-report method to collect data, so response bias may exist considering that students underreported their negative emotions. Despite the limitations, this study provides empirical evidence on the perception of nursing students toward their educational environment.

6. Conclusion

In conclusion, the perception of the nursing students in this institution toward their educational environment was "more positive than the negative". Regarding the subdomains of the DREEM inventory, the results showed that all these subdomains need further improvement. Especially in the subdomains of SPL and SPP, which are based on the students' perceptions, it is necessary to pay attention to educational pedagogy and educational facilities and equipment. The recommendations arising from the present study include the importance of having a student support system due to their direct and long-term contact with patients, which in the event of any defect, accident, or error, having such a system leads to increased students' self-confidence and comfort to accept the role of the nurse. Also, it is suggested that students' perception of the educational environment be measured regularly, for instance, at the end of each academic year to create a healthy and effective environment for learning in the educational environment.

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Author contribution

DR developed the main conceptual ideas and methodological design for the study. ZA and SSGZS contributed to data collection. MH performed the analysis and interpretations and took the lead in drafting the manuscript with discussion the results with all authors. All authors provided critical feedback and contributed to the final version of the manuscript. All authors have approved of the final version to be published and agreed 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 resolved.

Conflict of interest

None to be declared.

Declaration of interest statements

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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