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Education *Original Article*

Investigating the educational environment of the veterinary college at Islamic Azad University Shahrekord Branch from a veterinary student's perspective

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ABSTRACT

Objectives: The quality of the educational environment is among the most important quality indicators of higher education. Therefore, this study aimed to improve the quality of the educational environment based on the Dundee Ready Educational Environmental Measures model from veterinary students' perspective at the Faculty of Veterinary Medicine, the Islamic Azad University of Shahrekord Branch in 2019.

Material and Methods: A questionnaire was given to 297 students at an average age of 23 + 3 years. The data collection tool of this cross-sectional study was a 50-point questionnaire. The obtained data were assessed using descriptive statistical indicators, including mean, standard deviation, independent *t*-test, independent t-test, and one-way analysis of variance. Afterward, various questionnaire dimensions were evaluated based on gender variables, study locations, grade averages, and semesters.

Results: The results revealed a statistically significant difference between male and female students regarding their perception of professors ($P = 0.017$), such that the average score in female students was higher than male students (32 vs. 29.21).

Conclusion: Overall, girls' satisfaction in this dimension was more than boys. In addition, the results showed that the perception score of social conditions in students above semester 8 was significantly lower compared to those lower than semester 8 (20.22 vs.24.65) ($P < 0.001$).

Keywords: Veterinary education, Students' perception, Shahrekord

INTRODUCTION

The educational environment is a medium experienced and perceived by students and faculty. The educational environments play a significant role in students' effective learning. This environment influences how and what students learn, which is critical to completing the curriculum successfully. Students' feedback is very significant for the success of the educational environment.[1] Education quality was once thought to be affected by educational programs.[2] However, research has shown that the environment and atmosphere governing students' learning and their perception of the educational environment positively correlate with their learning efficiency.[3]

Continuous evaluation of students improves and expands the quality of the educational environment and results in identifying and strengthening the strengths and dealing with the weaknesses of the medical and educational environment. The World Federation of Medical

Evaluation has considered the educational environment as one of the needs for developing a medical education program.[4] In this respect, education and learning evaluation are significant because the student's competency level in their profession is not just a reflection of the educational institution. This issue affects their future patients and even the community.

The educational environment is the most significant factor in teaching and learning (e.g., teacher, program, and resources).[5] Various models have been suggested to measure the educational environment. For instance, the Dundee Ready Educational Environment Measure (DREEM) is a general instrument for this purpose in the medical field. It has high validity and reliability.[6] Valid and reliable dream questionnaires are widely applied to evaluate the learning environment worldwide.[7] This template has a standardized questionnaire with 50 items in five areas: Students' views on learning, professors, academic ability, educational atmosphere, and social conditions.[8]

Similar studies in this field can be applied to survey medical science students' perceptions of the educational environment. For instance, in a study at Kurdistan Medical Sciences University (Iran), 300 students were selected and investigated based on stratified sampling with appropriate allocation. Although a small percentage of students reported the learning environment as unfavorable, this low percentage caused more dissatisfaction over time and even affected their academic performance.[9]

Another study investigated 200 medical students and showed positive results because the teachers were well informed, the students had good friends, and they were confident in the success of their examinations.[10]

Evaluating the academic environment evaluation in 80 Japanese Medical Colleges based on six clinical dimensions of the Association of American Medical Colleges questionnaire showed that educational environments differ among universities. These differences are attributed to the difference in the readiness levels for postgraduate clinical education.[11]

Another study on 210 medical students in Iran indicated no considerable difference among male students in subscales of the educational environment. However, there were significant differences between students in basic sciences and pathology and among those enrolled in the clinical courses in terms of learning level.[12]

Investigating 239 senior medical students by DREEM questionnaire showed that while the total score had an acceptable level of internal consistency, subscales had the sub-optimal internal consistency.[13]

The results of a study on 100 medical students and 100 postgraduate and doctoral students in basic sciences showed that medical students were pleased with the educational function of their teachers, but their academic performance and social status were not affected by their educational atmosphere.[14]

The results of a prospective and cohort study on 196 1st year medical students in Malaysia at 4-time intervals showed DREEM's satisfactory levels of internal consistency in measuring the educational atmosphere.[15]

A study on 116 medical assistants and interns at Birjand University of Medical Sciences indicated that the mean clinical study score was higher among residents than among interns. The environmental situation and the atmosphere governing clinical education from the perspective of university students were at desirable levels. Several departments, such as the internal department, needed to pay more attention to enhancing the department's clinical education by those involved in the university.[16]

The quality of the educational environment is among the most important indicators of the quality of higher education. Therefore, this study aimed to improve the quality of the educational environment based on the model DREEM from the perspective of veterinary students at the Faculty of Veterinary Medicine, Azad University, in 2019.

MATERIAL AND METHODS

This is a cross-sectional study with participants including 297 veterinary students studying basic sciences in 2019 at Islamic Azad University, Shahrekord Branch (Iran). This research was conducted based on the census method in which the selected 297 participants completed DREEM questionnaires. The required data were collected using a one-to-one distribution method. After explaining the research purpose, they were ensured that they were free to complete or leave the study. Furthermore, they were ensured about the confidentiality of the questionnaire information. Once the participants stated their informed oral consent, the researcher provided the questionnaires to veterinary students studying at Shahrekord Veterinary School. After completing the questionnaires, the researcher collected them and analyzed their data. In this research, DREEM was performed using standard instruments to survey the educational environment of Shahrekord Veterinary School. This questionnaire had two parts. The first part contained demographic information, including age, sex, grade point average (GPA), marital status, educational level, and place of residence. In the second part, there were questions related to the educational environment.

The face validity of the questionnaire was reviewed and approved by experts in Isfahan medical education, and the reliability of the questionnaire was provided in a pilot study by calculating Cronbach's alpha (=93%).[17] In a study by Aghamolaei and Fazel, internal consistency of the obtained dimensions, including scientific competence, educational environment, and social conditions, was measured to be 91%,

70%, 67%, 74%, and 80%, respectively.[18] This questionnaire has 50 positive and negative statements assessed with the Likert scale. It has five dimensions including learning (12 items including questions 47, 44, 38, 25, 24, 22, 20, 16, 14, 7, 1, and 48), professors (11 items including questions 40, 39, 37, 32, 29, 18, 9, 8, 6, 2, and 50), scientific competence (8 items including questions 5, 10, 21, 26, 27, 31, 41, and 45), educational environment (12 items including questions 12, 11, 17, 23, 30, 33, 34, 35, 36, 42, 43, and 49), and social conditions (7 items including questions 28, 19, 15, 13, 4, 3, and 46). Each item was rated based on the Likert scale as "I strongly agree" (=4), "I agree" (=3), "I have no idea" (=2), "I disagree" (=1), and "I strongly disagree" (=0). Of nine out of 50 items (questions 35, 25, 17, 9, 8, 4, 48, and 39), the scores were reversed as follows: I strongly agree (=0), I agree (=1), I have no idea (=2), I disagree (=3), and I strongly disagree (=4). Based on this scale, a most and least ideal educational environment from the student's perspective receives a total score of 200 and 0, respectively.[18]

Regarding the number of questions and the maximum score of each dimension, the DREEM model was computed as follows: Learning (12 questions with a maximum score of 48), professors (11 questions with the maximum score of 44), student perception of their academic competency (eight questions with the maximum score of 32), educational environment (12 questions with a maximum score of 48), and social conditions (seven questions with the maximum score of 28). In interpreting the DREEM questionnaire findings, scores in the range of 151–101 were grouped as desirable and 200–151 as very desirable.[18] Moreover, the analysis of each question in this questionnaire indicated accurate information about the educational status of three or more. Based on the Likert scale, 50 questions of the questionnaire were scored in reverse as follows: "I completely agree" (=0), "I agree" (=1), "I have no idea" (=2), "I disagree" (=3), and "I completely disagree" (=4). According to this scale, the most and least ideal educational environments from the student's perspective received a total score of 200 and 0, respectively. We analyzed the scores in each five area of the questionnaire and gathered the results in Table 1. In addition, Table 2 is used for the final analyze.

RESULTS AND DISCUSSION

Using the factor analysis method, we divided the 50 items of the questionnaire asked from students into five dimensions. Independent t-test and one-way analysis of variance were used to examine the different dimensions of the questionnaire based on gender, city of study, GPA, and semester.

A total of 297 students with a mean age of 23 ± 3 were studied, of whom 160 were male and 137 were female. In addition, 209 of them were <8 semesters, most (118 people) had a GPA between 17 and 15.5 and were mostly from Isfahan (152 people). The test results showed a significant difference between male and female students in terms of student perception of professors (P = 0.017). Therefore, the average score in female students was higher than male students (32 vs. 29.21). Overall, girls' satisfaction in this dimension was more than that of boys. The test results also showed that the student's perception of social conditions in students who were above eight semesters was significantly lower than in students who were ≤8 semesters (22.20 vs. 24.65) (P < 0.001). Furthermore, the test result showed a significant relationship between students' perception score of social conditions and their GPA (P = 0.006). This difference was statistically significant in students whose GPA was between 18.5 and 20 and 18.5 and 17. Furthermore, this difference was observed in students with a GPA between 14 and 15.5. The perception score of social conditions in students with a GPA of 18.5–20 and 18.5–17 is the highest (27.63 and 24.89, respectively), while it is the lowest in students whose GPA of 14–15.5 (22.37). Nevertheless, no significant difference was observed between the dimensions of the questionnaire and the type of city.

DISCUSSION

The present study aimed to identify the perception of the environment among veterinary students studying at Shahrekord Veterinary School using the DREEM questionnaire. Based on the results, most veterinary students described the educational atmosphere of the university as relatively desirable. The average total score provided about the educational atmosphere of Shahrekord Veterinary School was different from the one reported in similar studies in medical schools (e.g., Patil and Chaudhari)[19] in India; Rahman *et al.* in Aga Khan University, Karachi, Pakistan;[20] Frothagh *et al.* (143.08 of 200) at Shahid Beheshti University;[21] Zolfahari and Bijari at Birjand (155.03 from 200)]16]; and Vatankhah *et al.* in Birjand (159.18 out of 200 points).[22] This difference may indicate better theoretical and clinical education and constant self-assessment of the education system in those countries and universities. In contrast, Shahrekord Veterinary

Students' perception of social situation	Students' perception of scientific capability	Students' perception of the educational environment	Students' perception of professors	Students' perception of learning		
0.268	0.068	0.127	0.017	0.294	Gender	*P*-value
<0.001	0.401	0.089	0.588	0.496	Educational term	
0.006	0.228	0.161	0.508	0.272	Average	
0.530	0.887	0.704	0.344	0.308	City	

Table 1: comparison of the mean of the five dimensions of the studied variables by dreem questionnaire according to the veterinary students of shahrekord branch of azad university in 2019.

Variable	Number	Students' perception of learning	Students' perception of professors	Students' perception of the educational environment	Students' perception of scientific competency	Students' perception of social situation	Students' total perception score
Gender							
Male	160	36.91±14.51	29.21±10.34	13.05±5.55	21±7.08	23.63±5.11	124±31
Female	137	38.69±14.69	32±9.61	14.07±5.89	19.51±6.86	24.28±4.86	129±31
Educational term							
8 Terms >	88	36.84±14.02	30.99±10.33	12.64±5.82	20.84±6.95	22.20±4.59	124±30
8 Terms ≤	209	38.11±14.85	30.28±10	13.89±5.65	20.09±7.04	24.65±4.99	127±32
Average							
18.5–20	8	44.13±9.52	33.038±6.19	11.75±6.25	24.88±3.44	27.63±5.04	142±19
17–18.5	68	37.03±13.98	29.52±9.66	13.12±4.66	19.68±6.95	24.89±5.11	124±29
15.5–17	118	39.02±15.73	31.13±11.09	14.30±5.90	20.03±7.21	24.08±4.93	129±35
14–15.5	73	35.55±13.30	29.29±8.98	12.92±6.02	19.84±6.68	22.37±4.17	120±28
<14	30	34.65±12.97	28.40±10.14	11.50±5.36	21.05±6.67	23.65±5.87	119±23
City							
Yazd	26	34.88±12.28	28.81±7.83	12.15±4.75	17.96±6.42	24.88±3.87	119±24
Esfahan	152	37.40±15	31.17±10.32	13.63±5.80	20.93±7.22	23.31±5.12	126±31
Tehran	14	35.71±12.52	28.57±8.52	13.93±5.94	19.07±5.31	25±3.98	122±28
Khuzestan	11	37.73±14.72	28.73±9.17	12.09±3.67	19.64±6.45	24.18±5.33	122±29
Shiraz	11	46.73±15.50	30.91±10.12	15.18±6.63	20.73±8.34	24.36±5.84	138±34
Charmahal	48	40.56±15.01	32.19±10.27	13.98±5.76	20.98±7.28	24.13±5.01	132±34
Lorestan	8	26±4.40	24.25±9.18	10.25±2.22	21±3.56	22±6.38	104±15
Kohgiluyeh	9	35±15.98	23.80±12.50	10.60±6.69	17±10.51	26±5.24	112±44
Kerman	18	36.63±11.55	27±9.90	12.63±7.56	18.50±5.48	25.25±5.80	121±36

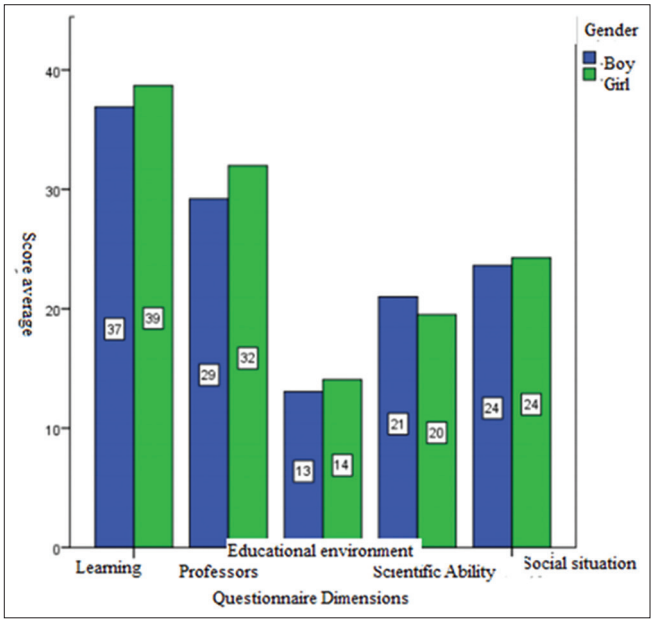

Figure 1: Average of student scores.

School's education system is traditional and often teacher-centered. Hence, efficient factors were required in the presence of this difference in students' perception of the educational atmosphere of Shahrekord Veterinary School with other universities to enhance, upgrade, and improve the current situation. In the present research, the mean raw score of general perception and the score of the educational environment among students significantly increased. However, male scores were higher than female students. This result is inconsistent with the findings of the Sharifi study at Shahid Beheshti University of Medical Sciences.[23] For a better interpreting, the results are shown in Figures 1-3 as bar charts.

In addition, the research findings indicated that students' marital status does not affect their perception and view of the educational climate and its mentioned five dimensions. This result is inconsistent with Bakhshi *et al.*,[24] where the Borhani score for the overall perception of singles was higher than married. This research found that the highest average score reflects social conditions which were for students living in private homes, and the lowest was for students living in dormitories. The mean difference in "social conditions" for the students living in dormitories was significant for the students living in rented and private. In contrast, the mean difference between students living in private and rented houses was non-significant. The average number of students living in private and rented houses was statistically significant. However, the difference in the average scores of

Table 2: interpreting the final scores obtained in each of the five dimensions of the dreem questionnaire.

Variable	Number of questions	Maximum score	Score	Interpreting scores and status
Student perception of learning	18	90	0–18	Very weak
			19–36	Negative view toward learning
			37–54	No idea
			55–72	Positive attitude toward learning
			72–90	Satisfaction with learning
Student perception of professors	11	55	0–11	Undesirable
			12–22	Need for retraining
			23–33	No comment
			34–44	Step in the right direction
			45–55	Optimal model
Student perception of his scientific ability	6	30	0–6	A feeling of complete failure
			07–12	Many negative aspects
			13–18	No comment
			19–24	Satisfactory
			25–30	Confident and encouraging
Student perception of the educational environment	7	35	0–7	Scary and terrifying
			8–14	Many things need to change
			15–21	No comment
			22–28	Positive attitude
			29–35	General and good view
The students' perception of their social status	8	40	0–8	Very bad
			9–16	Improper location
			17–24	No comment
			25–32	Not too bad
			33–40	Very good
Total questions about the educational environment	50	250	0–50	Undesirable
			51–100	Relatively desirable
			101–150	No comment
			151–200	Optimal
			201–250	Very desirable

students living in rented and private houses was insignificant. The reason for this difference might be the more pessimistic view of the students living in a dormitory for reasons such as being away from family, entering a new city with a different culture, and a crowded and stressful dormitory environment. The possibility of several welfare problems in university dormitories and potential psychological factors is the issue resulting from living in dormitories. Finally, the dormitory atmosphere influences students' perspectives about their surroundings, including the university educational environment. On the other hand, students who live in a private house or with their families are less likely to have these problems, explaining why they are more optimistic about their surroundings. On the other hand, although students who live in rented houses do not have the stresses caused by living in crowded environments, their expectations of the city and the novel campus environment are different from their mental reality.

In this research, the mean score of students' general perception of the educational atmosphere in the course of physiopathology showed a sudden increase compared with the course of basic sciences and reached its highest level. However, in the internship period, this score declined with a sharp slope and improved again during the apprenticeship. However, these differences were not statistically considerable. This result is probably because the physiopathology degree immediately follows the primary sciences degree. Furthermore, it contains mainly theoretical, memorizable, and non-objective courses, while physiopathology courses are more objective and practical such that the students feel more prepared for their future job.

Physiopathology students compare their current situation with when they were studying in basic science courses, giving a higher score to the educational atmosphere. An important limitation of the present study was that some students had not completed the DREEM questionnaire,

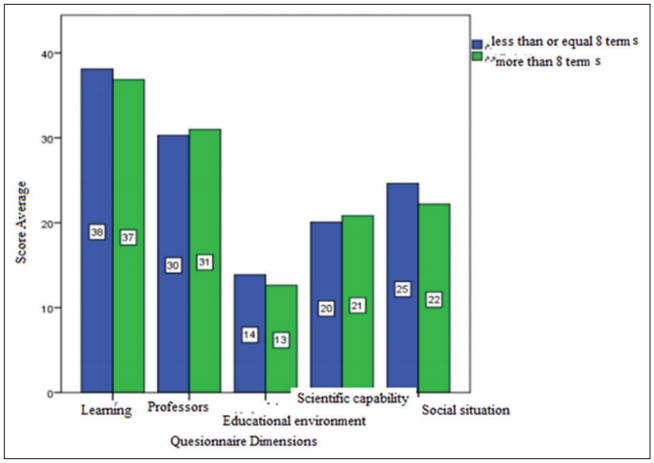

Figure 2: Average score of students in an educational environment.

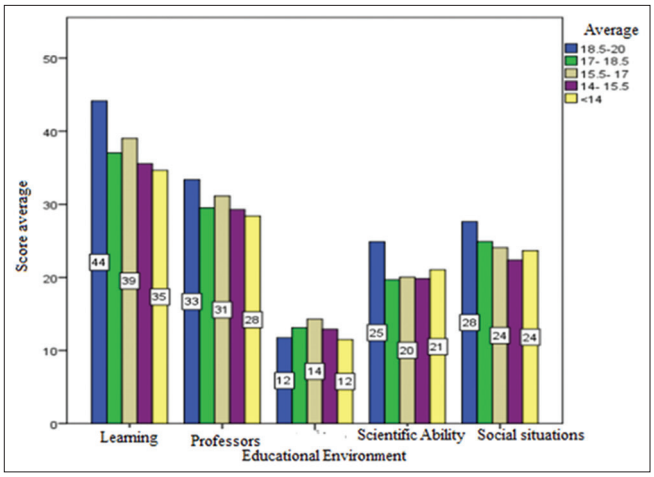

Figure 3: Average score of students.

despite the efforts of researchers. Applying the findings of this research for strategic planning, allocating resources, and examining students' perspectives will be helpful in future studies. The mentioned results and suggestions can also help administrators and educators enhance the medical learning environment. Finally, it is recommended to regularly measure students' perception of educational settings, for example, at the end of every academic year, to create a healthy and effective environment for learning should be made in the educational environment. Furthermore, the management style of the faculty officials should be given more attention and successful models should be identified. In this way, more attention is paid to students learning, and teamwork spirit is strengthened.

CONCLUSION

The perception of most medical students of the general educational atmosphere of Shahrekord Veterinary School was at a relatively desirable level. The general perception of the educational atmosphere did not show a statistically significant relationship with age, gender, GPA, marital status, place of residence, and educational level. Overall, more attention is needed to the learning environment and more careful planning to improve the educational situation by university officials and ongoing academic self-assessment.

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Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

There are no conflicts of interest.

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