RESEARCH ARTICLE

Perception of postgraduate medical residents regarding educational environment at French Medical Institute for Mothers and Children, Kabul Afghanistan

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Abstract

Objective: To assess the perceptions of postgraduate medical education residents regarding educational environment at a medical institution in Afghanistan.

Methods: The descriptive cross-sectional study was conducted from 2017 to 2018 at the French Medical Institute for Mothers and Children, Kabul, Afghanistan, FMIC, and comprised postgraduate medical residents. Dundee Ready Educational Environment Measure was administered to determine the perception of learning environment by the residents' perceptions related to learning, teachers, academic self-perception, atmosphere and social self-perceptions sub scales. Data was analysed using SPSS 22.

Results: Of the 63 subjects, 55(87.30%) were males and 42(66.66%) were married. The overall mean age was 30±4.38 years. There was no significant difference in mean subscales scores and overall scores in relation to participants' age, gender, type of specialty, province and year of training ($p>0.05$). There was a significant difference in students' perception of teachers in relation with the type of specialty ($p<0.05$).

Conclusions: The educational environment at the medical institution in Afghanistan was perceived by the students of residency programme as conducive.

Keywords: Dundee ready educational environmental measure, DREEM, Educational environment, Residency programme, Afghanistan. (JPMA 72: 669; 2022)

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Introduction

Students' feedback has been getting attention for improvement in medical education for the last 30 years and, hence, student's perception about conducive educational environment (EE) is of prime importance.[1] EE comprises domains like campus structure, food service area, sport services, class room climate, extracurricular facilities, curriculum, faculty and staff that are linked with the university's mission and vision.[2] EE gives a roadmap for the students to transform themselves into physically, socially, morally and professionally stable individuals.[1] If the students are provided with a conducive environment, it can greatly benefit them in academic success, lifelong learning, as well as with regard to their safety and social and mental wellbeing. Student satisfaction, critical thinking and diversity are significant determinants for a student's quality of education. Literature suggests that a positive perceptions of EE and classrooms have great influence on students' sense of control, performance, autonomy, confidence and safe clinical practice.[3]

The Dundee Ready Educational Environment Measure (DREEM) tool has been the most comprehensive and reliable tool used to assess EE for the last three decades.[4] Students are the foundation of any learning environment, and, therefore, it is imperative to consider their perception of EE and implement their feedback in order to maximise learning.

The French Medical Institute for Mother and Children (FMIC) has been conducting postgraduate medical education (PGME) programme in Kabul, Afghanistan, since 2012 and it is the most standardised residency programme in that country. The programme is supported by the Ministry of Public Health (MoPH), Afghanistan, and the Aga Khan University (AKU), Karachi, Pakistan. The programme accepts students regardless of gender, religion and race. Successful candidates are the ones who meet the programme's competitive score on the entrance exam as well as pass the interview conducted by the MoPH, AKU and FMIC officials.

The current study was planned to assess the perceptions of PGME residents regarding EE at the FMIC using the DREEM tool.

Subjects and Methods

The descriptive cross-sectional study was conducted from 2017 to 2018 at FMIC, Kabul, Afghanistan. After approval from the institutional ethics review committee, the sample was raised using consecutive sampling technique which

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Table-1: Perceptions of postgraduate medical education (PGME) residents on item statistics of Dundee Ready Educational Environment Measure (DREEM) tool (n=63).

Items	Mean	SD	95% Confidence interval	
1. I am encouraged to participate in class	2.91	1.09	2.61	3.20
2. The teaching is often stimulating	2.67	1.28	2.33	3.02
3. The teaching is student centered	2.84	1.07	2.55	3.12
4. The teaching helps to develop my competence/learning capabilities	2.87	1.07	2.58	3.16
5. The teaching is well focused	2.42	1.17	2.10	2.73
6. The teaching helps to develop my confidence	2.69	1.09	2.40	2.98
7. The teaching time is put to good use	2.42	1.12	2.12	2.72
8. The teaching over-emphasizes factual learning*	2.65	1.64	2.21	3.10
9. I am clear about the learning objectives of the course	2.85	.95	2.60	3.11
10. The teaching encourages me to be an active learner	2.85	1.16	2.54	3.17
11. Long term learning is emphasized over short term learning	2.55	1.03	2.27	2.82
12. The teaching is too teacher-centered*	2.22	4.36	1.04	3.40
13. The teachers are knowledgeable	2.84	1.17	2.52	3.15
14. The teachers are patient with patients /students	2.76	1.14	2.46	3.07
15. The teachers ridicule the students*	1.78	1.30	1.43	2.13
16. The teachers are authoritarian*	2.42	1.26	2.08	2.76
17. The teachers have good communication skills with patients	2.80	.91	2.55	3.05
18. The teachers are good at providing feedback to students	2.35	1.09	2.05	2.64
19. The teachers provide constructive criticism here	2.35	1.08	2.05	2.64
20. The teachers give clear examples	2.58	.99	2.31	2.85
21. The teachers get angry in class*	2.05	1.39	1.68	2.43
22. The teachers are well prepared for their classes	2.36	1.16	2.05	2.68
23. The students irritate the teachers*	1.16	.94	.91	1.42
24. Learning Strategies which worked for me before continue to work for me now	2.36	1.13	2.06	2.67
25. I am confident about my passing this year	2.96	1.02	2.69	3.24
26. I feel I am being well prepared for my profession	2.58	1.17	2.27	2.90
27. Last year's work has been a good preparation for this year's work	2.49	1.20	2.17	2.82
28. I am able to memorise all I need	2.55	1.07	2.26	2.83
29. I have learned a lot about empathy in my profession	3.02	.73	2.82	3.22
30. My problem solving skills are being well developed here	2.60	.94	2.35	2.85
31. Much of what I have to learn seems relevant to a career in healthcare	2.91	.99	2.64	3.18
32. The atmosphere is relaxed during the ward /class teaching	2.20	1.30	1.85	2.55
33. The schedule is well timetabled	2.16	1.27	1.82	2.51
34. Cheating is a problem in this school*	1.31	1.12	1.01	1.61
35. The atmosphere is relaxed during lectures	2.64	1.11	2.34	2.94
36. There are opportunities for me to develop interpersonal skills	2.67	1.06	2.39	2.96
37. I feel comfortable in class socially	3.05	.76	2.85	3.26
38. The atmosphere is relaxed during seminars/tutorials	3.16	.81	2.94	3.38
39. I find the experience disappointing*	1.60	1.08	1.31	1.89
40. I am able to concentrate well	2.82	1.04	2.54	3.10
41. The enjoyment outweighs the stress of the course	2.24	1.17	1.92	2.55
42. The atmosphere motivates me as a learner	2.56	1.15	2.25	2.87
43. I feel able to ask the questions I want	3.36	4.20	2.23	4.50
44. There is a good support system for students who get stressed	1.71	1.40	1.33	2.09
45. I am too tired to enjoy the course*	1.87	1.19	1.55	2.19
46. I am rarely bored on this course	2.15	1.19	1.82	2.47
47. I have good friends in this school	3.11	.92	2.86	3.36
48. My social life is good	3.00	.92	2.75	3.25
49. seldom feel lonely	2.47	1.03	2.19	2.75
50. My accommodation is pleasant	2.16	1.29	1.82	2.51

SD: Standard deviation.

examines the entire population that has a particular set of characteristics and approaches all the eligible participants for enrollment.[5] All PGME Year I to Year IV residents of either gender enrolled in the 2017-18 academic year were approached. After taking informed consent from the subjects, data was collected regarding demographic

characteristics, like age, gender, specialty, marital status, and residence. This was followed by the self-filled 50-item DREEM questionnaire to determine the students' perceptions of learning (SPoL), students' perceptions of teachers (SPoT), students' academic self-perception (SASP), students' perceptions of atmosphere/ environment (SPoA) and students' social self-perceptions (SSP). Each subscale is scored on a 5-point likert scale from 0 = strongly disagree to 4 = strongly agree.[3] It took 15-20 minutes to administer each questionnaire. Those who refused to volunteer were excluded. A score of >100 was interpreted as indicative of an environment which is viewed as positive or conducive by the students.[5,6]

Data was analysed using SPSS 22. Quantitative variables were reported as mean ± standard deviation with 95% confidence interval (CI) and qualitative variables were reported as frequencies and percentages. Cronbach alpha was reported to assess the internal consistency of the items within the subscales. Independent samples t-test and one-way analysis of variance (ANOVA) were used to compare the mean scores with various factors. P<0.05 was considered significant. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline of cross-sectional studies was followed.[7]

Results

Of the 63 subjects, 55(87.30%) were males and 42(66.66%) were married. The overall mean age was 30±4.38 years, with 40(63.5%) subjects aged <30 years. Of the total, 50(79.36%) students belonged to non-Kabul provinces and 13(20.63%) belonged to Kabul. Most participants were from Radiology 13(20.63%), followed by Pathology 11(17.46%), Paediatrics Medicine 10(15.87%), Paediatric Orthopaedics 9(14.28),

Table-2: Subscale scores analysis of Dundee Ready Educational Environment Measure (DREEM) tool.

Subscale	Total Score of subscales	Mean	Standard Deviation	Cronbach alpha	% of Scores
Students' Perceptions of learning	48	29.91	9.50	0.75	62.30%
Students' perceptions of teachers	44	24.40	5.91	0.65	55.44%
Students' academic self-perception	32	18.93	4.74	0.74	59.14%
Students' perceptions of atmosphere/environment	48	26.70	6.75	0.57	55.60%
Students' social self-perceptions	28	14.62	3.42	0.40	52.17%
Overall	200	114.55	24.34	0.86	57.27%

Table-3: Comparison of Dundee Ready Educational Environment Measure (DREEM) scale and subscale scores among postgraduate medical education (PGME) residents with different characteristics (n=63).

Characteristics	Students' Perceptions of learning (SPoL)	Students' perceptions of teachers (SPoT)	Students' academic self-perception (SASP)	Students' perceptions of atmosphere/environment (SPoA)	Students' social self-perceptions (SSP)	Overall DREEM Score
Age (years)						
≤30 years	29.60 (9.30)	23.90(5.90)	19.50 (4.40)	27.20 (6.30)	14.70 (3.30)	115.10 (24.40)
>30 years	32.20 (9.30)	26.80 (4.60)	19.10 (4.30)	27.20 (6.60)	3.70 (2.70)	120.30 (22.50)
p-value	0.34	0.06	0.72	0.99	0.25	0.47
Gender						
Male	30.00(9.70)	24.60 (5.90)	19.10 (4.50)	27.10 (6.40)	14.3(3.0)	115.4(24.4)
Female	27.00(7.80)	23.60 (4.50)	18.00 (5.72)	24.70 (7.30)	15.6(4.1)	108.1(24.5)
p-value	0.43	0.61	0.51	0.31	0.24	0.46
Specialty						
Anaesthesiology	22.00(11.70)	17.60(8.20)	16.30(4.10)	23.90(7.40)	14.10(3.20)	94.80(31.90)
Cardiology	28.70 (12.60)	26.40(5.40)	22.80(4.90)	29.10(9.40)	15.40(3.70)	119.40(29.70)
Pathology	30.60(8.50)	27.00(4.50)	20.20(3.20)	25.90(4.50)	13.50(2.50)	119.40(19.10)
Paediatric Medicine	26.30(9.50)	25.40(3.50)	17.50(4.30)	23.40(4.50)	13.50(1.30)	106.30(20.20)
Paediatric Surgery	34.20(9.80)	25.60(7.10)	20.20(6.70)	30.10(6.30)	16.40(6.00)	126.70(33.05)
Paediatric Orthopedics	32.70(6.40)	23.90(6.00)	19.30(3.00)	27.90(5.50)	12.90(2.40)	116.90(16.20)
Radiology	33.00(5.90)	25.00(2.40)	17.80(5.10)	28.70(6.50)	15.90(2.90)	122.00(15.40)
p-value	0.11	<0.001*	0.06	0.21	0.15	0.15
Province						
Kabul	33.20(7.40)	25.80(5.10)	18.60(4.30)	27.90(4.80)	14.40(3.40)	120.80(18.70)
Non-Kabul	28.60(9.90)	24.10(5.90)	19.00(4.80)	26.40(6.90)	14.50(3.10)	112.50(25.70)
p-value	0.11	0.35	0.74	0.48	0.96	0.28

*Significant at p value<0.05 by using one-way analysis of variance (ANOVA) and t-test for two independent samples.

Cardiology 7(11.11%), Anaesthesiology 8(12.69%) and Paediatric Surgery 5(7.94%).

In terms of DREEM items, the highest score related to "I feel able to ask the questions", followed by "The atmosphere is relaxed during seminars/tutorials", while the lowest scores related to "The students irritate the teachers" and "Cheating is a problem in this school" (Table-1).

The mean SPoL score was 29.91±9.50, followed by SPoA 26.70±6.74, SPoT 24.40±5.91, SASP 18.92±4.73 and SSP 14.62±3.41. The overall mean was 114.55±24.34. The overall internal consistency of the scale was good with a Cronbach alpha of 0.86. However, the internal consistency for the individual subscales ranged from moderate to poor (Table-2).

There was no significant difference in mean subscales scores and overall scores in relation to participants' age, gender, type of specialty, province and year of training ($p>0.05$). There was a significant difference in SPoT in relation with the type of specialty ($p<0.05$) (Table-3).

Discussion

The success of the PGME programme is highly dependent upon a conducive learning environment. Perceptions of medical residents about their learning environment is vital for modifying curriculum and eventually improving medical education environment.[6,7] The current study is the first to be conducted on medical residents at FMIC, Afghanistan. The current study used the DREEM tool to assess postgraduate-medical residents' perception of their study environment. The DREEM overall mean score of the current study was 114/200. Although this score does not indicate excellent EE, it reflects satisfactory and positive perceptions of the residents regarding their learning environment as per the DREEM guidelines.[8] Studies from developed and developing countries have reported scores ranging from 89 to 145.[7,9-16] The possible reasons for the variation in scores could be differences in institutional culture, methodology, sample size, prescribed curriculum and available educational and recreational facilities.

The current study examined the inventory of five EE domains via the DREEM tool. These domains in aggregation indicate the engagement of residents in their medical education. In this study, medical residents perceived a higher positive score on SPoL subscale 29.9/48 compared to the other domains. The score on SPoL domain among Indian residents was reported to be 33.6.[16] Another study reported it to be 27.4 in Dubai residents.[15] Teaching attributes and learning strategies are fundamental factors that affect residents' performance and patients' care.[17] The score in the current study was lower than among Australian medical students 32.8.[7,18] The plausible reasons for achieving a higher score on this domain could be supportive teachers, advanced teaching and learning strategies, continuous feedback and mentorship which induced empowerment and critical thinking among the learners.

In the current study, the PGME residents rated the lowest on SSP 14.60/28 which is perceived as 'not a nice place' as per the DREEM guideline. The score was higher than among Saudi medical students (13/28),[11] but was lower than Malaysian (15.8) and other Pakistani (17.32) medical students.[19,20] This lower perceived score could be well explained by higher clinical expectations, inability to socialise with friends and families due to long duty hours and lack of recreational facilities and advisory support system within institutions.

In subscale grading, a score >3.5 indicates positively-rated items. None of the item was rated >3.5 in the current study, and the findings are concurrent with previous studies.[14,21] The highest grading for an individual item was for the statement, "I feel able to ask the questions" (3.36), followed by "The atmosphere is relaxed during seminars/tutorials" (3.16). This also affirms that the students were pleased with EE mainly due to supportive teachers and comfortable classroom environment. On the other hand, the residents rated the lowest to the statement, "The students irritate the teachers" (1.16), followed by "Cheating is a problem in this school" (1.31). This truly depicts disciplinary issues and academic dishonesty at the institution which needs to be managed.

The current study found no significant association between gender and overall DREEM score. The findings are consistent with previous studies.[22] In contrast, studies conducted in Bangladesh, Sri Lanka, Iran and Pakistan found a more positive nexus between EE and female gender.[12,23-25] The plausible reason of not finding an association is linked with the lopsided gender ratio as there were very few female residents due to the socio-cultural context.

There was no relationship between age and DREEM score in the current study, which is line with a past study.[26]

The current study reported significant difference in the domain of SPoT as per specialty. This may be attributed to innovative teaching strategies, well-preparedness for clinical challenges, level of engagement and exciting specialty-based courses. Future research is required to explore the causal association of perception of teacher and specialty. The need to bring a change in EE is further strengthened from the results of a national study which declared that though the environment was positive, the expectations of the students were not met.[27]

Sample size was not calculated which is a limitation of the

current study and the findings cannot be extrapolated.

Conclusion

A conducive educational environment at FMIC in Kabul, Afghanistan, was perceived by PGME residents. There was a need to enforce classroom discipline, examination policies and guidelines to support an effective EE.

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