POST GRADUATE STUDENTS' PERCEPTION OF EDUCATIONAL ENVIRONMENT AT ARMY MEDICAL COLLEGE, RAWALPINDI: ASSESSMENT BY PHEEM (POST GRADUATE EDUCATION ENVIRONMENT MEASURE)

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ABSTRACT

Objectives: To assess the post graduate students' perception of various aspects of the learning and educational environment at Army Medical College, Rawalpindi.
Study Design: A descriptive study.
Place and Duration of Study: Army Medical College, Rawalpindi from May 2014-July 2014.
Participants and Methods: The modified Postgraduate Hospital Educational Environment Measure (PHEEM) a scored 34 item questionnaire was administered to evaluate various aspects of the learning environment. Three domains of the learning environment were covered with the help of PHEEM scores: perceptions of autonomy; perceptions of teaching; and perceptions of social support. Total and subscale scores were calculated according to Likert scale. Descriptive statistics were used to calculate mean SD. Analysis of variance (ANOVA) was used to compare scores between different departments.
Results: Total 39 postgraduate trainees were included in the study. Average of total score came out to be 107, whereas for perception of teaching it was 45.57 (SD = 5.22, range: 43 – 48), for social support it was 24.76 (SD = 3.76, range: 21 – 27) and for perception of autonomy it was 36.84 (SD = 4.09, range: 33 - 39). The overall and subscale scores were also compared between post graduates of the different departments of the public sector medical colleges. The education climate was rated as more positive than negative determined by overall PHEEM scores.
Conclusion: Army Medical College as an institution has a positive education environment.

Keywords: Postgraduate Hospital Educational Environment Measure (PHEEM, Educational environment, Learning environment, Pakistan

INTRODUCTION

The educational environment is a key determinant of the effectiveness of a learning program. A good environment nurtures motivated students, polishes their talents and brings out their best. On the contrary a negative environment hampers the learning process and seriously damages the prospects of achieving success and excellence in post graduate training programs[1]. In worst case scenarios it leads to student burnout, failure or even drop out.

The educational climate is an amalgamation of the physical, emotional and intellectual environment. The intellectual environment has the most impact which comprises of the supervision rendered to the students, the learning opportunities available and guidance plus encouragement given by colleagues and supervisors[2]. In the past, devising tools to gauge the positivity or health of the educational climate has been the focus of interest for researchers in medical education[3,4]. The 50 item DREEM (Dundee Ready Education Environment Measure) questionnaire was developed to measure the perceptions of undergraduate students towards their training[5,6]. Later another educational climate evaluation tool was developed for post graduate trainees based at hospital called PHEEM[7]. It is a 40 item questionnaire that evaluates hospital based post graduate trainees perception of their role of autonomy, social support and quality of teaching i-e the three subscales with regards to their training. It has been translated and validated among diverse settings and student populations[8-11]. Goonerante et al has modified it to suit the hospital based trainees at Srilanka[8]. Similarly Jalili et al found the Persian version of PHEEM as a reliable and practical tool for assessing clinical educational environment in emergency medicine departments[9].

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Till now evaluation of the perceptions of post graduate trainees undergoing MPhil or FCPS programs in basic sciences which includes anatomy, physiology, biochemistry, pharmacology and pathology towards their training has not been done at Army Medical college. Since their inception these programs have yielded a large number of qualified consultants and specialists in their fields but hitherto no feedback had been taken from the trainees. To fill that gap we set out to determine the response of post graduate trainees through modified PHEEM questionnaire. The modified PHEEM which was validated for the Srilankan students was chosen. This compact version of PHEEM excludes questions irrelevant to the local Srilankan hospital based trainees environment. Being Asian our educational environment mimics them and the issues and challenges faced by our post graduate students are very much similar in their training programs. Instead of wards and hospital their working domain are their respective departments with their attached laboratories. Validation of this modified PHEEM will lead to proper evaluation of the post graduate educational environment at Army Medical College.

PARTICIPANTS AND METHODS

This descriptive study was conducted at Army Medical College (AM College), Rawalpindi, Pakistan from May 2014 – July 2014. The study population comprised all post gratuate students from all departments at Army Medical College, Rawalpindi. Participants were selected by non-probability convenience sampling technique. The total number of post gratuate students at Army Medical College, at the time of the study was 39. PHEEM modified by Sri Lankan authors containing 34 items was used to evaluate various aspects of learning environment of postgraduate students. PHEEM scores comprise three domains of the clinical learning environment: perceptions of autonomy; perceptions of teaching; and perceptions of social support. The post graduate students were thoroughly briefed about the purpose of study and data collection process. They were assured of their anonymity by giving them the option to not mention their identity on the questionnaire and were also assured of the confidentiality of the data. All students' participation was voluntary and written and informed consent was taken from the participants. Data was collected department-wise, in one session.

The participants were asked to read each statement carefully and to respond using a 5-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. Items recorded: 5 for strongly agree (SA), 4 for agree (A), 3 for uncertain (U), 2 for disagree (D) and 1 for strongly disagree (SD). The 34-item PHEEM has a maximum score of 136 indicating the ideal educational environment as observed by the postgraduate trainee and score of 34 is the minimum.

The following was an approximate guide to interpreting the overall score (34-136): <32 very poor, 33-64 plenty of problems, 65–96 more positive than negative but room for improvement, and >96 excellent.

Perceptions of teaching (Range: 14 – 56): 0–14 very poor quality, 15–28 in need of some retraining, 29–42 moving in the right direction, 43-56 model teachers.

Perceptions of social support (range: 8– 32) : <8 non-existent, 9-16 not a pleasant place, 17–24 more pros than cons, 25-32 a good supportive environment.

Perceptions of role autonomy (range: 12 – 48): <12 very poor, 13–24 a negative view of one's role, 25-36 a more positive perception of one's job, 37-48 excellent perception of one's job.

Statistical analysis

Data was analyzed using SPSS version 20. Descriptive statistics were used to describe the results i.e. mean and standard deviation (SD) for quantitative variables while frequency and percentages for qualitative variables. Analysis of variance (ANOVA) was applied to compare scores between different departments. A *p*-value < 0.05 was considered as significant.

RESULTS

Total 39 postgraduate trainees were included in the study, 5 (12.8%) from anatomy department, 5 (12.8%) from community medicine department, 17 (43.6%) from pathology department, 5 (12.8%) from pharmacology department and 7 (17.9%) from physiology department. Following scores were used to interpret the subtotal scores under different headings.

Table: Comparison of scores between different departments.

Departments	Total score	Perception of teaching	Perception of autonomy	Perception of social support
Pharmacology	113.40 ± 2.30	48.80± 0.84	37.80 ± 1.92	26.80 ± 1.92
Physiology	111.33 ± 12.94	46.50 ± 5.04	38.83 ± 3.71	26.07 ± 4.73
Community Medicine	99.00 ± 15.54	43.40 ± 6.98	33.80 ± 4.76	21.80 ± 4.02
Anatomy	108.80 ± 5.06	44.40 ± 3.45	38.20 ± 1.92	26.20 ± 1.30
Pathology	105.82 ± 12.21	45.29 ± 5.84	36.35 ± 4.63	24.17 ± 3.84
p-value	0.293	0.535	0.269	0.172

The overall and subscale scores were compared between post graduate trainees of the different departments of the army medical college (table). Minimum total score was 79 and maximum score was 155 with average score of 125.51 (SD = 15.74). Average overall score falls in the range of more positive than negative approach but there is room for improvement whereas range varies from plenty of problems to excellent environment. Average score for perception of teaching was 41.36 (SD = 4.61, range: 30 – 54) which falls in the category of having model teachers and range of scores varied from moving in the right direction to model teachers. For social support average score was 68.20 (SD = 9.92, range: 37–84) which fall within the limits of more pros than cons to a good supportive environment and so with the range of scores but it also included few cases with the perception of not a pleasant place. Average score for perception of autonomy was 19.90 (SD = 2.91, range: 13-25) which falls in the range of more positive perception of one's job and so as the case with the range of scores but it also included few cases with the negative view of one's job. (Fig-1).

Scores of PG trainees of different departments were compared. Higher scores were observed in pharmacology department followed by physiology, community medicine, anatomy and pathology. But the difference in scores was insignificant. (Table-1 & Fig-2).

DISCUSSION

The educational climate of an institution determines the expertise of its students. It affects both the quantity and quality of professionals produced and also influences their performance as healthcare service providers. Researchers over the years have attempted to establish a definitive relationship between environment, learning and the extent to which these factors and their effects can be quantified. Measuring these environmental factions, comparing them with the end products and applying steps to improve the results by refurbishing the environment: has been of principal importance[3, 4]. Good clinical teaching environment ensures adequate learning, skill development and sound character[11]. All these relevant activities require active participation by learners, and are a demonstration of their professional thinking and behaviors. The response rate of the postgraduate trainee for the items of the questionnaire was high among all

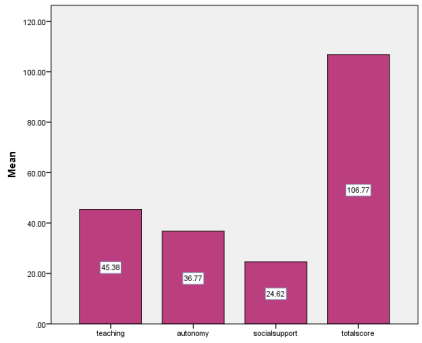

Figure-1: Description of scores in different departments.

departments of the college sufficient enough to generalize our conclusions. Perception of teaching was rated highest in the pharmacology department as compared to the other departments. The scores rated were reflected between 31-48 by the trainees. They mentioned the benefits of an informative orientation session before course work with an informative guideline book for training. They were satisfied with the working hours with the appropriate level of responsibility in their position. Trainees were provided with the opportunities to perform appropriate practical procedures and research with adaptable workload. They have developed good collaboration with colleagues as a part of the team working. This has been marked as a positive directed teaching and in a more right direction. The quality of teaching during clinical clerkships is an important factor that enhances learning and examination performance[12].

The most basic set of human needs are physiological. Human beings strive to achieve a state of homeostasis, which consists of physiological stability and psychological consistency[13]. Eating, drinking, napping are motivators of human behaviors followed by safety and social bonding. Trainees of the pharmacology and physiology departments had reflected similar perceptions of social support. All the post graduate trainees of the different departments at the Army Medical College agreed to a good supportive environment as the total scores of the perception of the social support was more than 24. Post graduate trainees were satisfied with their supervisors, who were able to allocate time for continuing medical education with good academic supervision and good communication skills. They mentioned mutual respect among members of department with full moral support among peers and had good suitable access to their career guidance. Nonexistence of structured training practice and absence of any objectives induces more challenges to both learners and trainers.

Unpleasant educational environment that fosters low quality teaching, humiliation of students and weak clinical supervision is expected to hinder the teaching and learning process [14]. The role of autonomy was fair as the scores of all the departments ranged between

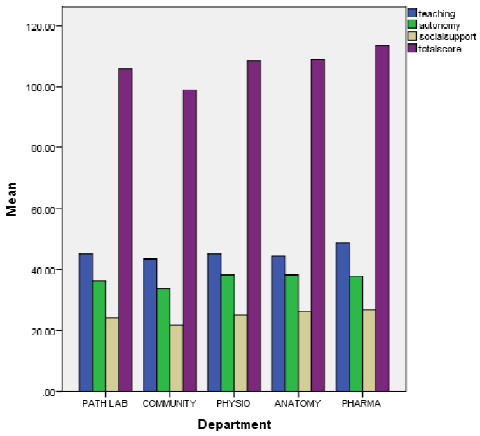

Figure-2: Description of scores in total as well as different domain-wise.

33- 38. This reflects that the trainees have some negative views regarding their own role in regard to the job and training. They described the reason for these negative views as inappropriate blame endorsed by their supervisors, inefficient use of training time and lack of constructive feedback[15]. Direction and feedback were mostly provided by junior faculty members with limited experience.

When the total score is >96, the environment is considered as excellent. The total scores of almost all the departments of Army Medical College ranged between 99-113 and the learning environment is therefore excellent for the postgraduate trainees except for a little hitch in the role of autonomy aspect which needs to be addressed and the trainees need to be given more freedom of expression.

CONCLUSION

The overall total scores and the subscale scores indicate that the learning environment of Army Medical College is largely satisfactory and compares favorably with the other postgraduate institutes using the PHEEM.

Limitations

The results are from one medical college and may only be transferrable in similar

contexts and comparable socio-cultural background.

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CONFLICT OF INTEREST

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

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