PERCEPTIONS OF POST-GRADUATE RESIDENTS REGARDING CLINICAL EDUCATIONAL ENVIRONMENT BY USING THE POST GRADUATE HOSPITAL EDUCATION ENVIRONMENT MEASURE (PHEEM) INVENTORY

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ABSTRACT

Objective: To evaluate the post graduate residents' perceptions about the clinical educational environment during their post graduate training by using postgraduate hospital education environment measure (PHEEM) inventory.
Study Design: Cross-sectional descriptive study.
Place and Duration of Study: The study was conducted at Army Medical College, from Feb 2016 to Jun 2016.
Material and Methods: The English version of PHEEM inventory (40 items on a 0-4 Likert scale) was distributed to 105 post graduate residents of multiple specialities by convenience non- probability sampling technique. This valid and reliable inventory is divided into three subscales of the hospital clinical educational learning environment; perceptions of teaching, perceptions of role autonomy and perceptions of social support. The perceptions of teaching, role autonomy and social support subscales contain 15, 14 & 11 items with a maximum score of 60, 56 & 44 respectively. The total summations of all these scores of three domains have a combined maximum and minimum of 160 & zero respectively.
Results: The overall PHEEM score was 103.29 ± 12.75 out of a 160 maximum score. The subscale perceptions of role autonomy, teaching and social support score were 36.11 ± 4.15 / 56, 39.02 ± 5.76 / 60 and 28.16 ± 4.71 / 44 respectively.
Conclusion: The residents as a whole group perceived the clinical training environment of Military Hospital Rawalpindi and Combined Military Hospital Rawalpindi more conducive however there are still few areas having room for improvement.

Keywords: Educational Environment, Perception, Residents.

INTRODUCTION

The educational environment is an important measure for the effectiveness of a learning program in medical education. The learning educational environment quality is the crucial & critical determinant of the level of learner's training. Learners' satisfaction with their educational pursuits, construction of professional knowledge and achievement of the principle goal of curriculum is dependent on the level of engagement, commitment, enthusiasm and motivation provided by the educational environment. In andragogy theories, the focus of teaching is to set the background, context, climate or environment for learning; as it is about imparting knowledge or sharing expertise.

Maudsley considered learning environment as an essential component of medical education[1]. One of main focus of Harden ten question of curriculum development is the educational environment. Curriculum's vital manifestation, expression, and conceptualization are dependent upon the learning educational environment. It symbolizes the entire education course & process and imitates what is happening in and around the curriculum, the institute & organization, and within the whole educational mechanism & process. The clinical learning environment of the hospital settings is a persuasive & significant factor of work-based learning.

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The clinical educational environment is an important educational grade in the quality assurance of post-graduate (PG) residency program. A good clinical educational environment incorporates PG residents' active involvement, contribution; ensures that both the learning and teaching processes are related to the patients; activates deep learning, encouraging professional intelligence, thinking, skill and behavior. It will result in enhanced professional satisfaction, competency, skill, knowledge, improved patient care, quality of health, prevention and treatment of ill & sick community.

On the contrary a negative clinical educational environment in our hospitals & clinics hampers the process of learning and seriously damages the predictions of achieving success and excellence in clinical training of PG doctors. A negative learning clinical educational environment can be destructive, damaging & disparaging to PG residents. It can result in poor supervision, hampers the educational learning process, and seriously damages the prospects & predictions of achieving success, achievement and excellence in PG residency programs. In worst situations, if this negative environment is not improved, it may lead to PG residents' fatigue, exhaustion, burnout; resulting in their failure or even drop out from training.

It is the need of the hour to establish supportive clinical educational learning culture in our PG training for producing competent, proficient & skilled physicians and surgeons in Pakistan. In contemporary medical education; there are educational researches regarding evaluation of clinical educational environment in some specific speciality of medicine or surgery[2-8]. But research work pertaining to overall evaluation of clinical educational environment of multiple post-graduate specialties was still deficient. So the purpose of this study is to evaluate the overall perceptions of the post graduate residents of different medical & surgical specialties about clinical educational environment during their training.

MATERIAL AND METHODS

The quantitative, cross-sectional descriptive study was conducted at Army Medical College, MH & CMH Rawalpindi from February 2016 to June 2016. Postgraduate Hospital Educational Environment Measure (PHEEM), is a reliable & valid data collection tool used worldwide for quality assurance procedure of post-graduate doctors training in medical education[9]. The English version of PHEEM inventory was used as a data collection tool to evaluate the PG residents' perception of clinical educational environment during their PG residency program. This version is already used in Pakistan and Saudi Arabia for evaluation of clinical educational environment in pathology and family medicine specialities respectively[2,4,5,10].

The participants of this study were residents, working in in MH & CMH Rawalpindi. The participation was entirely voluntary. The purpose & aim of this study was thoroughly explained to them. Before data collection; both verbal and written consent was taken from residents. Anonymity was ensured, as PG residents were not supposed to mention their names on questionnaire; instead they were given IDs.

PHEEM is a 40 statements containing self-administered inventory; in which responses are graded on 5 point Likert scale from strongly disagrees to strongly agree. This elegant & multidimensional inventory is divided into three subscales of the hospital clinical educational learning environment- perceptions of teaching, perceptions of role autonomy and perceptions of social support. Responses was coded as 0,1,2,3, 4 for strongly disagree, disagree, uncertain, agree & strongly agree respectively. PHEEM inventory contains four negative item statements; which were reverse coded.

The perception of role autonomy has 14 items, containing 2 negative statements; having minimum & maximum score 0 & 56 respectively. The score ranges between 0–14, 15–28 , 29–42 & 43–56 means very poor perception, a negative view of PG role, a more positive observation of

one's role & excellent perception of one's job respectively[9].

The perception of teaching has 15 items containing no negative statements; having minimum & maximum score 0 & 60 respectively[9]. The score ranges between 0–15, 16–30, 31–45 & 46–60 means very poor teaching, needs some reskilling & retraining, positive & moving in the right path and role model teacher respectively[9].

The perception of social support has 11 items, containing 02 negative statements; having minimum & maximum score 0 & 44 respectively[9]. The score ranges between 0–11, 12–22, 23–33 & 34–44 means very poor social support, not a pleasant environment, a more positive than negative having room for improvement and excellent supportive environments respectively[9].

So the perceptions of teaching, autonomy and social support subscales contain 15, 14 & 11 items with a maximum score of 60, 56 & 44 respectively. The total summations of all these scores of three domains have a combined maximum and minimum of 160 & zero respectively. The overall PHEEM score 0-40, 41-80, 81-120 & 121-160 means very poor, problematic, positive but room for improvement and excellent clinical educational environment respectively[9].

Statistical Analysis

The data was entered and analyzed using SPSS version 22.0. The data collected from PHEEM questionnaire on 5 point- Likert scale from strongly disagrees to strongly agree were utilized as ordinal data. Mean and standard deviation of PHEEM subscales were calculated. Data was presented with the help of tables and graphs.

RESULTS

The PHEEM questionnaire was administered to 134 residents by purposive non-probability sampling technique. The participant response rate was 85%. Incompletely filled questionnaires were excluded. There were total 105 post graduate residents from different medical and surgical specialities. The overall PHEEM score was 103.29 ± 12.75 out of a 160 maximum score (table). The subscale perception of role autonomy, teaching and social support score were 36.11 ± 4.15 / 56 , 39.02 ± 5.76 / 60 and 28.16 ± 4.71 / 44 respectively.

Table: Interpretation of results of PHEEM (General score & subscales).

PHEEM subscales	Total study score	Max score	Interpretation based upon ruffs guidelines[16]
Perceptions of teaching	39.02	60	Positive perception of teaching, moving in the right path
Perceptions of role autonomy	36.11	56	PG residents positive observation of theirs role
Perceptions of social support	28.16	44	PG resident's perception of more positive than negative.
Total PHEEM Score	103.29	160	Positive clinical educational environment having room for improvement.

DISCUSSION

According to The World Federation for Medical Education (WFME); the evaluation of learning environment is one of the main objectives for "the conduction of the evaluation of medical education programme"[11]. Both the Harden and Genn had studied the importance, potential, prospective & worth of the under-standing of educational learning environ-ments and its sub-components for managing curriculum development, implementation, progression and change[11]. Measurement of the medical education environment is basically assessing & evaluating the nature of the educational practice in medical

education. It provides a holistic, systematic, organized, comprehensive, broad and detailed picture & image of the overall state of matters & affairs in the education process.

In the current study the PG clinical educational climate was evaluated by PG residents currently working in different medical & surgical specialities in MH and CMH Rawalpindi. The 85 % satisfactory response rate from PG residents was an indication of their better level of attention, interest & zeal in their clinical learning educational atmosphere; as they progress from PG residents towards consultants & specialists in their concerned field through definite career pathways. Evaluating the educational environment can play a vital part in the overall quality assurance of the PG residency program.

The overall PHEEM score was 103.29 ± 12.75 out of a 160 maximum score, which showed that PG participants as a whole group perceived the PG training environment as more positive with still room for improvement. The subscale perception of role autonomy score was 36.11 ± 4.15/56; which showed PG residents positive observation of their role. The perception of teaching score was 39.02 ± 5.76/60; which showed PG residents positive perception of teaching, moving in the right path. The perception of social support was 28.16 ± 4.71 /44; which showed PG residents perception of more positive than negative; having room for improvement.

Our study finding correlates with Mahendran (2013), evaluation of PG Psychiatry residency training programme in Singapore having PHEEM total score of 106, with scores of subscale; perception of role autonomy, teaching & social support score 36.20, 44.85 & 25.85 respectively[7].

Our study outcome relates with BuAli et al (2015), in which they evaluated pediatric PG residency learning environment of 6 teaching hospitals of Saudi Arabia by PHEEM. The overall PHEEM score of pediatric departments of these six hospitals was 100.19 ± 23.13[5]. The subscale scores of role autonomy, teaching & social support score 34.91 ± 7.83, 38.89 ± 9.80 & 26.38 ± 7.04 respectively.

Auret et al (2013), reported a total PHEEM score of 117 from medical & surgery residents working in rural hospitals in Australia[12]. Their sub scale scores far exceeded then from our institution hospitals-45/56 vs 36.11 for 'Perceptions of role autonomy'; 39/60 vs. 39.02 for 'Perceptions of teaching'; and 33/44 vs. 28.16 for 'Perceptions of social support' [12].

The findings in the present study were partially contrary to results of educational research conducted by Flaherty et al (2015), and Al-Marshad and Alotaibi (2011), in which they found that total PHEEM scores of medical residents working in Irish University Teaching Hospital Ireland & King Fahad Hospital of Saudi Arabia were 82.88 ± 18.99 & 82.63 ± 11.79 respectively[3,13].

Binsaleh et al (2015), reported a total PHEEM score of 77.7 ± 16.5 from urology residency program in Saudi Arabia, indicating problematic clinical educational environment[8]. Their sub scale scores were far lower than our institution hospitals-26.18/56 vs 36.11 for 'Perceptions of role autonomy'; 29.7/60 vs. 39.02 for 'Perceptions of teaching'; and 21.9/44 vs. 28.16 for 'Perceptions of social support'.

Our study correlates with Goulding and Passi (2015), in which they evaluated educational climate of dermatology PG residency programme[14]. The overall PHEEM score was 96.5/ 160; showing positive environment having room for improvement. The subscales score of role autonomy, teaching & social support score were 35.8/56, 39.4/60 & 21.3/36 respectively.

Findings in the present study were also partially in contrast with Family Medicine & General Medicine residency Programs evaluation in Saudi Arabia & Japan respectively[15,16]. They had total PHEEM score of 67.1/160 & 57.6/160 respectively. Indicating problematic educational training environment; with recommendation

of urgent actions & curriculum reforms for improvement of the PG residents learning experience[16]. These results of our study were in harmonization with clinical evaluation PG Dental training programme in Japan having PHEEM total score of 108.5 ± 30.12[17].

CONCLUSION

The PG residents as a whole perceived the clinical training environment of Military Hospital Rawalpindi and Combined Military Hospital Rawalpindi more conducive however there are still few areas having room for improvement.

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CONFLICT OF INTEREST

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

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