

## Educational environment for residents in Obstetrics and Gynaecology working in teaching hospitals of Lahore, Pakistan: A cross-sectional study

Khadija Waheed<sup>1</sup>, Muhammad Al-Eraky<sup>2</sup>, Sara Ejaz<sup>3</sup>, Amna Khanum<sup>4</sup>, Fatima Naumeri<sup>5</sup>,

### Abstract

The objective of this study was to determine the educational environment of residents in the specialty of Obstetrics and Gynaecology (OBG) working in the hospitals of Lahore, Pakistan. This cross-sectional study was conducted at OBG Department, King Edward Medical University. All the Post-graduate Residents (PGR's) of OBG working in Lahore, Pakistan were included in this study. Educational environment was assessed using Post-graduate Hospital Educational Environment Measure (PHEEM). A total of 368 PGR's from 11 institutions were included in this study. The mean PHEEM score was  $63.68 \pm 29.60$ . Most of the participants labelled the environment as 'plenty of problems' as per global scale of PHEEM. PHEEM score was significantly higher for those working in Government hospitals. Gender, year of residency and marital status showed no difference in PHEEM score. We conclude that educational environment in our OBG departments is not adequate and up to the mark.

**Keywords:** Educational environment; Lahore; Pakistan; Post-graduate; Residents; PHEEM

### Introduction

Regarding post-graduate training in Pakistan, the most commonly opted degree is the fellowship of College of Physicians and Surgeons of Pakistan (CPSP). At the same time, there are many other universities which are issuing their own degrees. But in terms of their assessment during the training, no proper system exists in Pakistan and generally it is considered as the responsibility of the hospital to maintain a good learning environment for the post-graduate residents (PGR's).<sup>1,2</sup> For learning and training of residents, an appropriate educational environment is one of the important factors. As PGR's are future consultants, a good educational environment is necessary for their training and learning.<sup>3</sup> As in our

<sup>1,3,4</sup>Gynecology and Obstetrics Department, King Edward Medical University, Lahore, <sup>2</sup>Medical Education Department, University of Lahore, Lahore, <sup>5</sup>Pediatric Surgery Department, King Edward Medical University, Lahore, Pakistan.

**Correspondence:** Khadija Waheed. e-mail: khadijaw@yahoo.com

country, differences in the environment of the hospitals definitely leads to the superiority and preference of a certain hospital over the other by the PGR's. This variation of the educational environment among different hospitals and departments depends upon many factors like the instructor or the supervisor, PGR's themselves, curriculum, social support by the institution and infrastructure available.<sup>4</sup>

For the assessment of education environment, the most validated and commonly used tool is the Post-graduate Hospital Educational Environment Measure (PHEEM). Since its inception in 2005, PHEEM has enjoyed extensive popularity and has become a commonly used inventory.<sup>5</sup> It is a 40-items inventory in which and each item is answered on a 5-point Likert scale by the PGR's and assesses educational environment of their department in 3 subscales included Autonomy, Teaching and Social support. PHEEM has been validated in many studies and it has gained higher Cronbach's alpha values in many studies which indicates its higher internal consistency.<sup>6</sup> It assesses the strengths and weaknesses of educational environment of the hospital and department.<sup>7</sup> As in our country, the educational environment has been assessed by researchers on a minimal level and most of the studies from our country are limited to a single institute,<sup>8,9</sup> so we planned this study with a particular reference to gynaecology and obstetrics (OBG) and we involved all the institutions of the 2nd largest city of the country, so that exact picture may be depicted and we may come to know the strengths and weaknesses of our educational environment. The objective of this study was to determine the educational environment of PGR's in the specialty of OBG working in the hospitals of Lahore, Pakistan.

### Methods

This cross-sectional study was started at Department of OBG, King Edward Medical University. The duration of study was 2 months, from June, 2017 to July, 2017. Formal permission for this study was obtained from Institutional Review Board. All the PGR's of OBG working in all the

**Table-1:** Characteristics of sample.

Age	27.61 ± 1.65 years
<b>Gender</b>	
Male	4 (1.1%)
Female	364 (98.9%)
<b>Year of residency</b>	
1st year	91 (24.7%)
2nd year	103 (28%)
3rd year	105 (28.5%)
4th year	69 (18.8%)
<b>Marital status</b>	
Single	211 (57.3%)
Married	154 (41.8%)
Widow	2 (0.5%)
Divorced	1 (0.3%)
<b>Institute</b>	
Private	107 (29.1%)
Public	261 (70.9%)

departments of OBG in the city of Lahore, Pakistan from 11 institutes were included in this study. PGR's were contacted personally in their departments by the investigator. All the residents present in the department were requested to fill the proforma and if someone was absent or not present at that time, he/she was not contacted again. They were asked to fill an anonymous questionnaire and no written consent was obtained from participants. This was to maintain the anonymity and they were told that filling the questionnaire means that they are giving consent to be included into this study. The questionnaire consisted of two parts: Part one enquired about demographic details; and part two consisted of the PHEEM questionnaire. PHEEM has 40 items which are answered on a Likert scale by participants (from 0 to 4). We obtained permission from author for using this scale in our study. As PHEEM has already been validated in a previous study conducted in Pakistan there was no need to validate it again.<sup>10</sup> PHEEM assesses educational environment in three subscales as teaching, autonomy and social support. The total score of all items may be maximum by 160 and it is divided into 4 global scales: 0-40 being poor; 41-80 being plenty of problems; 81-120 as more positive than negative but room for improvement; and 121-160 as excellent educational environment.<sup>6</sup> A sample size of 369 participants was calculated taking expected mean ±SD for PHEEM score as 93.96±20.79,<sup>10</sup> level of significance as 5%, power of study as 90% as expected mean PHEEM score as 90.79. All the data for this study was analyzed using SPSS version 20. The mean score for total PHEEM score and its subscales was assessed for gender, year of residency, marital status and type of institute (public sector or private) using independent sample t-test taking p value >0.05 as significant.

**Table-2:** Questions asked for participants in this study.

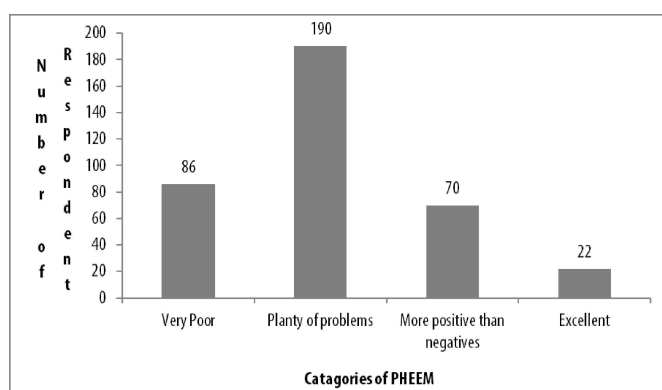
	Mean±SD
I have a contract of employment that provides information about hours of work	1.76±1.29
My clinical teachers set clear expectations	1.33±1.10
I have protected educational time in this post	1.73±1.09
I had an informative induction programme	1.47±1.00
I have the appropriate level of responsibility in this post	1.29±1.07
I have good clinical supervision at all time	1.22±1.10
There is racism in this post	1.59±1.12
I have to perform inappropriate tasks	2.05±1.21
There is an informative junior doctors handbook	2.09±1.19
My clinical teachers have good communication skills	1.17±1.13
I am called inappropriately by attendants/ staff nurses	1.81±1.23
I am able to participate actively in educational events	1.37±1.05
There is sex discrimination in this post	1.45±1.21
There are clear clinical protocols in this post	1.54±1.08
My clinical teachers are enthusiastic	1.33±1.22
I have good collaboration with other doctors in my grade	1.21±1.06
My duty hours are defined and are according to international standards	2.45±1.36
I have the opportunity to provide continuity of care	1.51±1.03
I have suitable access to career advice	1.73±1.13
This hospital has good quality accommodation for Junior Doctors, especially when on call	1.73±1.28
There is access to an educational programme relevant to my needs	1.73±1.12
I get regular feedback from senior colleagues	1.44±1.03
My clinical teachers are well organized	1.34±1.16
I feel physically safe within the hospital environment	1.53±1.22
There is a no-blame culture in this post	2.14±1.17
There are adequate catering facilities when I am on call	2.25±1.22
I have enough clinical learning opportunities for my needs	1.67±1.09
My clinical teachers have good teaching skills	1.31±1.14
I feel part of a team working here	1.35±1.19
I have opportunities to acquire the appropriate practical procedures for my grade	1.52±1.14
My clinical teachers are accessible	1.21±1.11
My workload in this job is fine	2.22±1.37
Senior staff utilize learning opportunities effectively	1.44±1.14
The training in this post makes me feel ready to be a Senior House Officer/Specialist Registrar/Consultant	1.47±1.15
My clinical teachers have good mentoring skills	1.30±1.12
I get a lot of enjoyment out of my present job	1.73±1.29
My clinical teachers encourage me to be an independent learner	1.50±1.12
There are good counseling opportunities for junior doctors who fail to complete their training satisfactorily	1.71±1.19
The clinical teachers provide me with good feedback on my strengths and weaknesses	1.46±1.14
My clinical teachers promote an atmosphere of mutual respect	1.34±1.21
<b>SUB SCALE</b>	
Autonomy	23.94±10.28
Teaching	20.16±11.90
Social Support	18.42±8.04
<b>Total</b>	63.68±29.60

## Results

A total of 368 PGR's were included in this study. The mean age of participants was 27.61 ± 1.65 years. Most of the participants were females and only 4 (1.1%) were male. Most of the participants (28.5%) were in their 3rd year of residency. Participants were included from 11 institutes of the city. Of these 11, five institutes were

**Table-3:** PHEEM Score according to age, year of residency & marital status.

Variable	Total PHEEM Score	p-value	Autonomy	p-value	Teaching	p-value	Social Support	p-value
<b>Gender</b>								
Male	49.75 ± 11.72	0.344	18.00 ± 6.73	0.246	13.75 ± 2.75	0.279	17.25 ± 3.2	0.770
Female	63.84 ± 29.66		24.00 ± 10.3		20.23 ± 11.9		18.43 ± 8.08	
<b>Year of residency training</b>								
1st and 2nd year	64.01 ± 29.72	0.825	23.97 ± 10.32	0.939	20.21 ± 11.83	0.924	18.67 ± 8.20	0.531
3rd and 4th year	63.32 ± 29.46		23.89 ± 10.26		20.09 ± 12.01		18.14 ± 7.87	
<b>Marital Status</b>								
Single	65.58 ± 9.77	0.115	24.52 ± 10.67	0.181	21.07 ± 12.54	0.063	18.76 ± 8.08	0.253
Married	60.66 ± 27.25		23.07 ± 9.55		18.73 ± 10.71		17.79 ± 7.86	
<b>Institution</b>								
Private	52.4 ± 31.97	0.00	19.98 ± 10.84	0.00	16.67 ± 12.02	0.00	14.76 ± 8.56	0.00
Public	68.31 ± 27.61		25.56 ± 9.60		21.59 ± 11.57		19.91 ± 7.32	

**Figure:** Categories of PHEEM.

private while 6 institutes were in the public sector. Most of the respondents (70.9%) were working in public sector hospitals. All the demographic details are summarized in Table 1.

The mean PHEEM score was found to be  $63.68 \pm 29.60$ . Regarding subscales of PHEEM, lowest score was found for social support, which was  $18.42 \pm 8.04$ . The highest score was found for question stated as "My workload in this job is fine". The lowest mean score was found for question stated as "My clinical teachers have good communication skills?" All of these questions and the score is summarized in table 2. When PHEEM score was categorized, it was found that most of the participants labelled the environment as plenty of problems (Figure).

Also PHEEM score and its subscales were stratified for gender, year of residency and type of the institute. Total mean PHEEM score was found significantly higher for those working in public hospitals compared to private sector hospitals. All data is given in Table-3.

**Conclusion:** We conclude that educational environment for PGR's working in OBG departments is not adequate and upto the mark and it needs special consideration to improve this environment.

**Disclaimer:** None.

**Conflict of Interest:** None.

**Funding Sources:** None.

## References

- Biggs J. Postgraduate medical training in Pakistan: observations and recommendations. *J Coll Physicians Surg Pak* 2008; 18: 58-63.
- Razzak JA, Ahmed A, Saleem AF, Nasrullah M. Perceived need for emergency medicine training in Pakistan: a survey of medical education leadership. *Emerg Med Australas* 2009; 21: 143-6.
- Koutsogiannou P, Dimoliatis ID, Mavridis D, Bellos S, Karathanos V, Jelastopulu E. Validation of the Postgraduate Hospital Educational Environment Measure (PHEEM) in a sample of 731 Greek residents. *BMC Res Notes* 2015; 8: 734.
- Khoja AT. Evaluation of the educational environment of the Saudi family medicine residency training program. *J Family Community Med* 2015; 22: 49-56.
- Chan CY, Sum MY, Lim WS, Chew NW, Samarasekera DD, Sim K. Adoption and correlates of Postgraduate Hospital Educational Environment Measure (PHEEM) in the evaluation of learning environments - A systematic review. *Med Teach* 2016; 38: 1248-55.
- Roff S, McAleer S, Skinner A. Development and validation of an instrument to measure the postgraduate clinical learning and teaching educational environment for hospital-based junior doctors in the UK. *Med Teach* 2005; 27: 326-31.
- Goulding JM, Passi V. Evaluation of the educational climate for specialty trainees in dermatology. *J Eur Acad Dermatol Venereol* 2016; 30: 951-5.
- Hashim R, Qamar K, Zuhra F, Ali S. Post graduate students' perception of educational environment at Army Medical College, Rawalpindi: Assessment by PHEEM (Post Graduate Education Environment Measure). *Pak Armed Forces Med J.* 2015; 65: 405-9.
- Zeb S, Shahid R, Khan TM. Evaluation of Postgraduate Surgical Educational Environment. *J Rawal Med Coll* 2016; 20: 63-6.
- Sheikh S, Kumari B, Obaid M, Khalid N. Assessment of postgraduate educational environment in public and private hospitals of Karachi. *J Pak Med Assoc* 2017; 67:171-7.