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Procedia - Social and Behavioral Sciences 46 (2012) 1084 – 1090

Procedia
Social and Behavioral Sciences

WCES 2012

Postgraduate Trainees' perception of the clinical learning environment at an Iranian Medical Sciences University

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Abstract

BACKGROUND and PURPOSE: Clinical learning environment is an influential component of the educational experience. This study measures the learning environment across all of resident physicians at Guilan University of Medical Sciences (GUMS) in Iran by using Postgraduate Hospital Educational Environment Measure (PHEEM), and identifies areas for change to enhance residents experiences. **METHODS:** This cross-sectional study was conducted at GUMS during summer 2011. The 40-item PHEEM is an evaluation tool consisting of a validated questionnaire with 3 subscales: perceptions of autonomy, social support and teaching which are factors perceived to be influencing the educational environment. The questionnaire was distributed to all residents in clinical wards of university hospitals at GUMS. Collected data were analyzed by using SPSS18 software. **RESULTS:** Trainees' perception of clinical learning environment was more positive than negative. There were differences in perceptions of the learning environment between the junior and senior trainees but no significant difference between male and female Trainees in educational environment subscales. **CONCLUSIONS:** The results revealed that the educational climate was generally perceived positively by trainees and trainees were happy with their teaching, their supports and the work they did. The study also showed problematic components of learning environment in our university hospitals which enabled us to adopt some remedial measures.

Keywords: Medical education ; Educational environment; Postgraduate training; PHEEM

Introduction

Learning depends on several factors and the learning environment is an important aspect of the curriculum that must be considered in both undergraduate and postgraduate medical education. Its impact is something well recognized and accepted because of its real influence over students' achievement, satisfaction and success (Rukban et al., 2010, Riquelme et al., 2009; Alkharusi, 2010).

The learning environment has been defined as everything that is happening in the classroom or department or faculty or university (Genn, 2001b, Roff and McAleer, 2001; Cinar, Cakmak & Uzunboylyu 2009). Measurement of the educational environment comprehensively assesses what is happening, or how things are in the medical

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school(Genn, 2001b). It is a way of assessing the nature of the educational practice of the medical school. It also provides a holistic, comprehensive, systematic, and detailed picture of the overall state of affairs in the education process(Genn and Harden, 1986). The World Federation for Medical Education (WFME) singled out the “learning environment” as one of the “targets” for what it terms “the conduction of the evaluation of medical education programme.”(Genn, 2001a).

Environment consist many important aspects, such as the quality of supervision (autonomy)(Kilminster and Jolly, 2000, Cottrell et al., 2002; Karahoca, Karahoca & Yengin, 2010), the quality of teachers(Parsell and Bligh, 2001, Irby, 1978), and facilities and atmosphere (social support)(Rotem et al., 1996, Bleakley, 2002). The Standing Committee on Postgraduate Medical Education (SCOPME) stated that ‘...a working environment that is conducive to learning is critically important to successful training’(Al-Issa & Al-Bulushi, 2011; Parry et al., 2002).

The college of medicine at Guilan University of Medical Sciences was established in 1987. The residency training programme in Guilan University of Medical Sciences comprises 4 stages. The work environment will thereby differ according to the stage of training. It is of interest to assess and compare the work environment in each of these stages and to determine whether it facilitates a successful training programme. No study has so far been published with regard to the clinical learning environment in a postgraduate training programme in Iran.

This study was conducted to assess the clinical learning environment in each stage of training in the postgraduate training programme.

Objectives

- To assess the overall clinical learning environment in the postgraduate training programme.
- To compare the clinical environment between the 4 different stages of training.

Method

In this observational descriptive study, variables consisted of 40 statements in the Postgraduate Hospital Educational Environment Measure (PHEEM) constructed and validated by Roff *et al*(Roff et al., 2005). This included all 3 categories of the clinical learning environment. Autonomy was represented by 14 statements, social support by 11 statements and teaching by 15 statements. Each of the 40 statements was rated from 1-5. A 5 point Likert scale (1 – Strongly disagree, 2 – Disagree, 3 – Uncertain, 4 - Agree, 5 – Strongly agree) was used. Inversion of rating was done for the negative statements. Maximum possible scores were: autonomy – 70, teaching – 75, social support – 55 and overall - 200. The Persian validation of the PHEEM was performed by making 2 forward translations and 2 back translations. After cognitive debriefing of the translated version, the compiled translation was piloted by a group of 15 residents and was found highly reliable with an alpha coefficient of 0.876.

Study population consisted of all Postgraduate Guilan University of Medical Sciences trainees as at 01/07/2011. Stages 1, 2, 3 and 4 consisted of 20, 17, 14 and 17 trainees respectively, the total number of trainees being 68.

Data was collected in September 2011 (1/9/11 – 30/9/11) via a self-administered questionnaire (PHEEM). Data was analyzed using SPSS (Ver. 18) and statistical analysis was done via one way ANOVA and student’s t test.

Results:

The most postgraduate trainees currently in training programme participated in this research project with a response rate of 52/68 (76%). The mean overall score was 122/200 (61%) implying 64% satisfaction with regard to the training programme. Satisfaction with regard to autonomy, teaching and social support was 44/70 (63%), 46/75 (61%) and 32/55 (58%) respectively.

Mean total scores for stages 1, 2, 3 and 4 were 110/200 (55%), 119/200 (60%), 138/200 (69%) and 136/200(68%) respectively. There was a significant difference between all the stages except stage 1 and 2 and stage 3 and 4 ($p>0.05$). Stage 1 and 2 were found to be significantly lower than the other 2 stages (Table 1).

The statements representing autonomy are as follows:

1. I have a contract of employment that provides information about hours of work.
2. I had an informative introduction programme.

Table 1: Mean Total Scores differences between stages.

Stages 1 and 2	P=0.089; P>0.05
Stages 1 and 3*	P=0.001; P<0.05
Stages 1 and 4*	P=0.001; P<0.05
Stages 2 and 3*	P=0.002; P<0.05
Stages 2 and 4*	P=0.010; P<0.05
Stages 3 and 4	P=0.685; P>0.05

(* P<0.05 was significant)

3. I have the appropriate level of responsibility in this post.
4. I have to perform inappropriate tasks.
5. There is an informative junior doctor’s handbook.
6. I am bleeped/ called inappropriately.
7. There are clear clinical protocols in this post.
8. My hours confirm to the local working time regulation.
9. I have the opportunity to provide continuity of care.
10. I feel part of a team working here.
11. I have opportunities to acquire the appropriate practical procedures for my grade.
12. My workload in this job is fine.
13. The training in this post makes me feel ready for the next stage/ to be s specialist.
14. My clinical teachers promote an atmosphere of mutual respect.

Mean scores obtained for autonomy for stages 1, 2, 3 and 4 were 40/70 (57%), 43/70 (61%), 50/70 (71%) and 48/70 (69%) respectively. Here again like the mean total scores all the stages had a significant difference except stage 1 and 2 and also stage 3 and 4 (Figure 1).

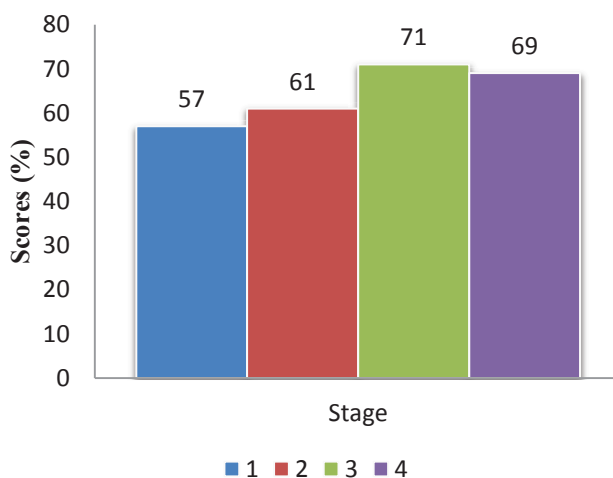


Figure 1: Autonomy scores obtained from trainees of the 4 stages

Following are the statements representing social support:

1. There is racism in this post.
2. There is sex discrimination in this post.

3. I have good collaboration with other doctors in my grade.
4. I have suitable access to career advice.
5. This hospital provides good quality accommodation when on call.
6. I feel physically safe within the hospital environment.
7. There is a no-blame culture in this post.
8. There are adequate catering facilities when I am on call.
9. My clinical teachers have good mentoring skills.
10. I get a lot of enjoyment out of my present job.
11. There are good counselling opportunities for junior doctors who fail to complete their training satisfactorily.

Mean scores obtained for social support for stages 1, 2, 3 and 4 respectively were 29/55 (53%), 31/55 (56%), 37/55 (67%) and 37/55 (67%). The stage 1 and 2 score was significantly lower than other ($p < 0.05$) (Table 2).

Table 2: The Social Support Scores differences between stages.

Stages 1 and 2	P=0.128; P>0.05
Stages 1 and 3*	P=0.001; P<0.05
Stages 1 and 4*	P=0.001; P<0.05
Stages 2 and 3*	P=0.005; P<0.05
Stages 2 and 4*	P=0.005; P<0.05
Stages 3 and 4	P=0.687; P>0.05

* P<0.05 was significant

The statements representing teaching are as follows:

1. My clinical teachers set clear expectations.
2. I have protected time at this post.
3. I have good clinical supervision at all times.
4. My clinical teachers have good communication skills.
5. I am able to participate actively in educational events.
6. My clinical teachers are enthusiastic.
7. There is access to an educational programme relevant to my needs.
8. I get regular feedback from my seniors.
9. My clinical teachers are well organized.
10. I have enough clinical learning opportunities for my needs.
11. My clinical teachers have good teaching skills.
12. My clinical teachers are accessible.
13. Senior staff utilise learning opportunities effectively.
14. My clinical teachers encourage me to be an independent learner.
15. The clinical teachers provide me with good feedback on my strengths and weaknesses.

Mean scores obtained for teaching for stages 1, 2, 3 and 4 respectively were 41/75 (55%), 45/75 (60%), 52/75 (69%) and 51/75 (68%). The stage 1 and 2 score was significantly lower than other ($p < 0.05$) but the significant difference was not seen between the stage 1 and 2, stage 2 and 4 and also stage 3 and 4 (Figure 2).

All stages of trainees identified strengths and weaknesses in the 3 categories of the clinical learning environment.

Strengths identified in autonomy were:

- I have the appropriate level of responsibility in this post. (mean 3.58 ± 0.997)
- I have opportunities to acquire the appropriate practical procedures for my grade. (mean 3.56 ± 0.938)
- I do not have to perform inappropriate tasks. (mean 3.38 ± 1.105)
- I feel part of a team working here. (mean 3.38 ± 0.932)

Weaknesses identified in autonomy were:

- My workload in this job is fine. (mean 2.58 ± 1.226)
- I have a contract of employment that provides information about hours of work (mean 2.77 ± 1.148)

Strengths identified in social support were:

- I have good collaboration with other doctors in my grade. (mean 3.98 ± 1.057)
- There is racism in this post. (mean 3.37 ± 1.155)
- I get a lot of enjoyment out of my present job. (mean 3.31 ± 1.058)

Weaknesses identified in social support were:

- There are adequate catering facilities when I am on call. (mean 2.19 ± 1.103)
- There is a no-blame culture in this post. (mean 2.40 ± 1.159)

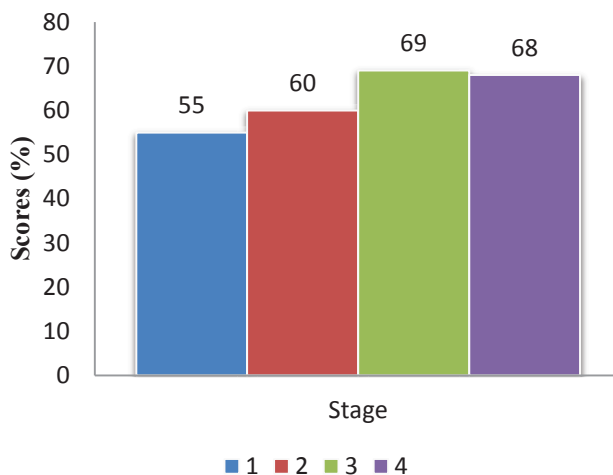


Figure 2: Teaching scores obtained from trainees of the 4 stages

Strengths identified in teaching were:

- My clinical teachers have good teaching skills.(mean 3.50 ± 1.035)
- Clinical teachers are enthusiastic. (mean 3.48 ± 1.000)
- My clinical teachers are accessible.(mean 3.37 ± 0.929)

Weaknesses identified in teaching were:

- The clinical teachers provide me with good feedback on my strengths and weaknesses.(mean 2.73 ± 1.069)
- I have enough clinical learning opportunities for my needs. (mean 2.75 ± 1.279)

Discussion

The education of trainees depends on an integration of didactic activity in a structured curriculum with diagnosis and management of patients under appropriate levels of supervision and scholarly activity aimed at developing and maintaining lifelong learning skills. The quality of this experience relate with the quality of patient care, which is always the highest priority. A proper balance must be maintained so that a programme of postgraduate medical education does not depend on residents to meet service needs at the expense of educational objectives(Lucas and Samarage, 2008). The World Federation for Medical Education has laid down standards for postgraduate education which some of them are *Professionalism and autonomy, The relationship between training and service, Feedback to trainees, Support and counselling of trainees, Working condition and Physical facilities and equipment*(Lucas and Samarage, 2008).

This study shows that there are several areas in the pre- MD training programme that need improvement (identified weaknesses). Differences between stages were noted postgraduate training programme with regard to their clinical learning environment.

In comparison with the results of Lucas and colleagues (Penaloza, Mendoza, Gress & Vargas, 2009; Lucas and Samarage, 2008) in this article, we found out that by developing the stage of trainees the all kinds of the scores improve while they said that the minimum score belong to the last stage of training in their article.

The postgraduate pre-MD training programme in Iran for most training has derived into 4 stages. But what is happened in these trainees that by improving the stage their score in all categories progressed. Especially in Guilan University of Medical Sciences curriculum, the environment is not changed in stages for a long period. So may be these differences results from the changes that the environment actually made in the situation of trainees. For example by developing the stage of them, attracting the fideism of teachers and patients made a satisfying for him or her. Actually lower stage trainees and other medical students have more obedience from him or her.

Nevertheless there was no significant difference between the stage 3 and 4. Maybe this phenomenon happens because the involvement of the stage 4 trainees for the board exam which actually change the environment for them. Also, the stage 3 and 4 showed the maximum amount of satisfaction with regard to the overall training programme as well as its 3 subcategories and also mean total score.

Conclusion

Both basic and advanced trainees understand the learning environment positively but significant concerns must be addressed. The advanced trainees perceived the overall learning environment and the teaching they receive better than basic trainees. The study also showed problematic components of learning environment in our university hospitals which enabled us to adopt some remedial measures.

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