

Original Articles

Trainees' perception of the clinical learning environment in the postgraduate training programme in paediatrics

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Introduction

Working and learning in the clinical environment represents a challenging phase for doctors in training. According to Daugherty et al., they '...must learn to balance such diverse demands as responsibility for patient care, economic hardships, on-call schedules, patient death, the need for constant learning, the task of teaching, the requirements of attending physicians and senior residents, along with the necessities of family and personal life'¹.

One important component of the educational experience is the clinical learning environment. This environment encompasses many important aspects, such as the quality of supervision (autonomy)^{2,3}, the quality of teachers^{4,5} and facilities and atmosphere (social support)^{6,7}. The Standing Committee on Postgraduate Medical Education (SCOPME) stated that '...a working environment that is conducive to learning is critically important to successful training'^{8,9}.

The postgraduate training programme in paediatrics comprises 3 stages of training. The first year of training is in a general hospital (Kalutara, Ratnapura, Kurunegala, Anuradhapura, Badulla or Matara). The second year of training is in a teaching hospital (Colombo South Teaching Hospital, Colombo North Teaching Hospital, Sri Jayawardenapura General Hospital, Teaching Hospital Karapitiya, Teaching Hospital Kandy or Teaching Hospital Peradeniya). The third and final year of training is at Lady Ridgeway Hospital for Children, Colombo.

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 in paediatrics. No study has so far been published with regard to the clinical learning environment in a postgraduate training programme in Sri Lanka.

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

Objectives

- To assess the overall clinical learning environment in the postgraduate pre-MD training programme in paediatrics.
- To compare the clinical environment between the 3 different stages of training.

Method

It was an observational descriptive study. The variables consisted of 40 statements in the Postgraduate Hospital Educational Environment Measure (PHEEM) constructed and validated by Roff *et al*¹⁰. 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. Study population consisted of all Postgraduate Institute of Medicine (PGIM) pre-MD paediatric trainees as at 01/07/2007. Stages 1, 2 and 3 consisted of 24, 24 and 22 trainees respectively, the total number of trainees being 70.

Data was collected in July 2007 (1/7/07 – 31/7/07) via a self-administered questionnaire (PHEEM). Data was analysed using Microsoft Excel 2007 and statistical analysis was done via one way ANOVA and student's t test.

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Results

All postgraduate trainees currently in the paediatric training programme participated in this research project with a response rate of 70/70 (100%).

The mean overall score was 129/200 (64%) implying 64% satisfaction with regard to the training programme.

Satisfaction with regard to autonomy, teaching and social support was 46/70 (66%), 49/75 (65%) and 34/55 (62%) respectively.

Mean total scores for stages 1, 2 and 3 were 135/200 (68%), 132/200 (66%) and 119/200 (60%) respectively. There was a significant difference between the 3 stages $p=0.028$ ($p<0.05$) (Figure 1).

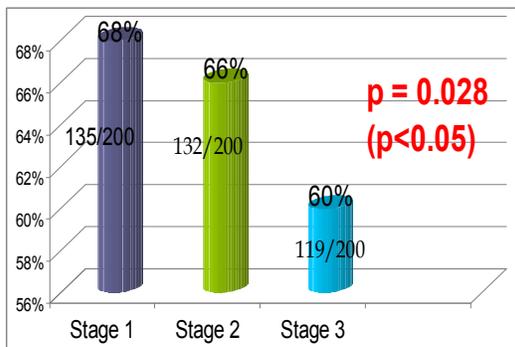


Figure 1 Mean total overall scores obtained from trainees of the 3 stages

P values were calculated to determine whether stage 3 was significantly lower than the other 2 stages.

Stages 1 and 3	$p=0.014$; $p<0.05$
Stages 2 and 3	$p=0.034$; $p<0.05$
Stages 1 and 2	$p=0.733$; $p>0.05$

Stage 3 was found to be significantly lower than stages 1 and 2.

The statements representing autonomy are as follows:

1. I am provided information about the time allocated for the various components in the training programme.
2. I had an informative introduction programme.
3. There is an informative junior doctor's handbook.
4. I have the appropriate level of responsibility in this post.
5. I have to perform inappropriate tasks.
6. I am called inappropriately.

7. There are clear clinical management guidelines in this post.
8. My on call rotation conforms to the recommended 1 in 3.
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 to be a senior registrar/consultant.
14. My clinical teachers promote an atmosphere of mutual respect.

Mean scores obtained for autonomy for stages 1, 2 and 3 were 47/70 (67%), 47/70 (67%) and 42/70 (60%) respectively. The stage 3 score was significantly lower $p=0.04$ ($p<0.05$) (Figure 2).

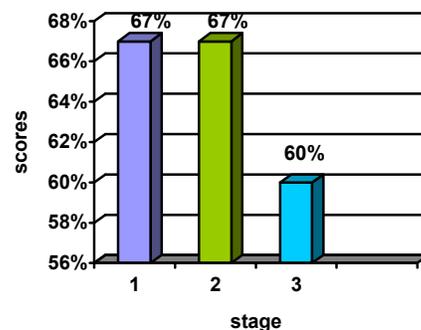


Figure 2 Autonomy scores obtained from trainees of the 3 stages

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 and 3 respectively were 35/55 (64%), 35/55 (64%) and 30/55 (54%). The stage 3 score was significantly lower $p=0.028$ ($p<0.05$) (Figure 3).

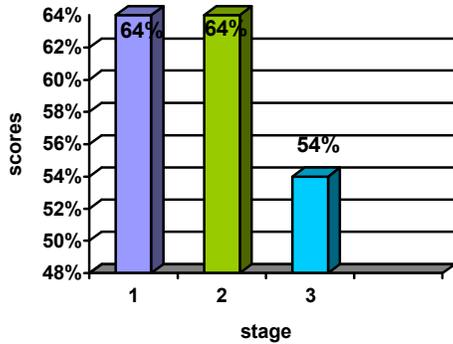


Figure 3 Social support scores obtained from the trainees of the 3 stages

The statements representing teaching are as follows:

1. I have protected time at this post.
2. I have good clinical supervision at all times.
3. My clinical teachers have good communication skills.
4. I am able to participate actively in educational events.
5. My clinical teachers are enthusiastic.
6. There is access to an educational programme relevant to my needs.
7. My clinical teachers set clear expectations.
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 and 3 respectively were 53/75 (71%), 51/75 (68%) and 44/75 (59%). A significant difference was seen between the 3 stages $p=0.01$ ($p<0.05$) (Figure 4).

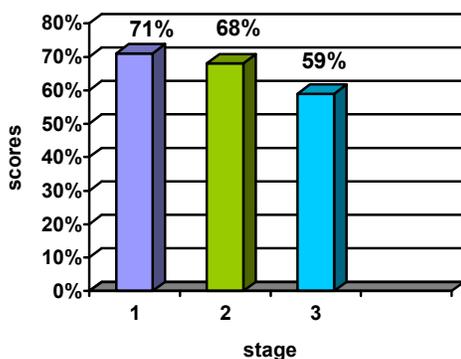


Figure 4 Teaching scores obtained from the trainees of the 3 stages

P values were calculated to determine whether stage 3 was significantly lower than the other 2 stages.

Stage 1 and 3	$p=0.005$; $p<0.05$
Stage 2 and 3	$p=0.022$; $p<0.05$
Stage 1 and 2	$p=0.492$; $p>0.05$

Stage 3 was found to be significantly lower than stages 1 and 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 opportunity to provide continuity of care.
- I feel part of a team working here.
- I have opportunities to acquire the appropriate practical procedures for my grade.
- I do not have to perform inappropriate tasks.

Weaknesses identified in autonomy were:

- No formal informative introduction programme.
- No clear management guidelines.

Strengths identified in social support were:

- No sex discrimination in this post.
- I have good collaboration with other doctors in my grade.
- Clinical teachers have good mentoring skills.
- No racism in this post.

Weaknesses identified in social support were:

- Accommodation provided is of poor quality.
- Catering facilities are very poor.
- Counselling opportunities for those who fail to complete their training is unsatisfactory.

Strengths identified in teaching were:

- My clinical teachers set clear expectations.
- Clinical teachers are enthusiastic.
- My clinical teachers have good teaching skills.
- My clinical teachers are accessible.

Weaknesses identified in teaching were:

- No protected time.
- No access to relevant educational programmes.

Weaknesses identified only by the stage 3 trainees were:

- Heavy workload
- Lack of an atmosphere of mutual respect
- Lack of access to suitable career advice
- “Blame culture”
- Lack of job satisfaction
- Inability to participate actively in educational events

Discussion

The education of trainees relies 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 life-long learning skills. The quality of this experience is directly related to the quality of patient care, which is always the highest priority. Educational quality and patient care quality are interdependent and must be pursued in such a manner that they enhance one another. A proper balance must be maintained so that a programme of postgraduate medical education does not rely on residents to meet service needs at the expense of educational objectives¹¹.

The World Federation for Medical Education has laid down standards for postgraduate education some of which are mentioned below.

- *Professionalism and autonomy*-the training process must, based on approved basic medical education, further strengthen professionalism of the doctor and the training should foster professional autonomy to enable the doctor to act in the best interests of the patient and the public.
- *The relationship between training and service*-the apprenticeship nature of professional development must be described and respected and the integration between training and service (on-the-job training) must be assured and the capacity of the health care system should be effectively utilised for service based training purposes. The training provided should be complementary and not subordinate to service demands.

- *Feedback to trainees* - constructive feedback on the performance of the trainee must be given on an ongoing basis and acceptable standards of performance should be explicitly specified and conveyed to both trainees and supervisors.
- *Support and counselling of trainees* - the competent authorities must, in collaboration with the profession, ensure that a system for support, counselling and career guidance of trainees is available. Counselling should be provided based on monitoring the progress in training and incidents reported and should address social and personal needs of trainees.
- *Working conditions* - Postgraduate training must be carried out in appropriately remunerated posts/stipendiary positions in the chosen field of medicine and must involve participation in all medical activities - including on-call duties - relevant for the training, thereby devoting professional activities to practical training and theoretical learning throughout standard working time. The service conditions and responsibilities of trainees must be defined and made known to all parties. The service components of trainee positions should not be excessive and the structuring of duty hours and on-call schedules should consider the needs of the patients, continuity of care and the educational needs of the trainee.
- *Physical facilities and equipment* - The trainee must have space and opportunities for practical and theoretical study and have access to adequate professional literature as well as equipment for training of practical techniques. The physical facilities and equipment for training should be evaluated regularly for their appropriateness and quality regarding postgraduate training. Physical facilities of the training location would include lecture halls, tutorial rooms, laboratories, libraries, information technology equipment, and recreational facilities where these are appropriate¹².

This is the standard set by the World Federation for Medical Education. So, where do we stand? This study shows that there are several areas in the pre-MD training programme that need improvement (identified weaknesses).

A disparity was noted between the different stages of the paediatric training programme with regard to their clinical learning environment.

The postgraduate pre-MD training programme in paediatrics has evolved over time and was divided into 3 stages only in 2002. At this time there was controversy whether spending one year in the peripheral hospital would actually be beneficial to the trainees due to scarcity of clinical material. However the stage 1 trainees have scored the highest with regard to the overall satisfaction of the training programme as well as in all 3 sub categories.

The stage 3 trainees are based at the tertiary care hospital for children, Lady Ridgeway Hospital and are thought to have the ideal clinical learning environment. However, they showed the least amount of satisfaction with regard to the overall training programme as well as its 3 subcategories.

It should be remembered, however, that the stage 3 trainees have the most amount of stress, as the MD (Paediatrics) part 2 examination is near at hand and they have to cope up with a much heavier work load, giving them little time to study. This may partly account for lowest level of satisfaction seen among this group.

Conclusion

Stage 3 trainees have shown the least amount of satisfaction in contrast to the stage 1 trainees who have shown the highest amount of satisfaction, with regard to the clinical learning environment as a whole and in all 3 sub categories.

Recommendations

- A workshop should be held for the trainers and trainees to rectify the problems identified in stage 3.
- The weaknesses identified in the different stages should be conveyed to the trainers via the Board of Study in Paediatrics.
- Different tutors should be assigned to trainees who fail to complete their training programme.
- Follow up studies should be performed annually.

An introduction programme has been started for the new batch of trainees enrolled. The availability of the National Guidelines (which occurred after this study was done) has somewhat solved the problem of not having clinical guidelines for the post.

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