

ENHANCING EDUCATION AND PRACTICE

Junior Doctors' Opinions about the Transition from Medical School to Clinical Practice: A Change of Environment

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ABSTRACT Introduction: Concerns have been growing about the effects of the working environment on junior doctors and the learning opportunities available to them. In order to identify problems and opportunities for improvement, we explored junior doctors' opinions about the transition from student to practitioner.

Method: Seventeen recent graduates in four focus groups discussed the transition.

Data analysis: Related comments were combined in the report of the discussions, which was approved by the participants.

Results: The transition was perceived as a major change, particularly the increased responsibility and workload and contacts with other health care workers and patients. Preparation during undergraduate training was adequate as regards knowledge, communication, history taking and physical examination skills but not for pharmacological knowledge and patient management skills. Problems were connected with practical procedures and feelings of uncertainty. There was little formal education. Proposals to ease the transition were earlier patient contacts, more involvement in patient management and growing responsibility during clerkships.

Discussion: Although the sample was small, the uniform opinion in all groups supports the validity of the findings. Junior doctors felt confident with regard to knowledge and skills, but experienced difficulties with patient management, practical matters and their role on the team. Contrary to the idea of an educational continuum, formal learning appeared to be very limited in the hospital environment.

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Conclusions: *Preparation for medical practice may benefit from active involvement of clerks in patient management decisions and a gradual increase in responsibilities. An effective medical education continuum would require more attention for house officers' learning.*

KEYWORDS *Focus groups, house officers, clerkship, transition, preparation for practice, medical education continuum.*

Introduction

Growing concern has been expressed about the effects of the hospital as a working environment on junior doctors (Calman & Donaldson, 1991; Gillard *et al.*, 1993; Roche *et al.*, 1997; Rolfe *et al.*, 1998; Bogg *et al.*, 2001). The heavy workload and long hours are particularly worrisome (Firth-Cozens, 1987; Gillard *et al.*, 1993; Bogg *et al.*, 2001). Junior doctors themselves have mentioned their rudimentary organizational skills, extreme workload, stress, depression, inadequate supervision and insufficient support from senior staff (Firth-Cozens, 1987; Butterfield, 1988; Calman & Donaldson, 1991; Roche *et al.*, 1997; Rolfe *et al.*, 1998).

Most studies of undergraduate training as preparation for medical practice (Woodward & Ferrier, 1983; Jolly & MacDonald, 1989; Clack, 1994; Roche *et al.*, 1997; Calman & Donaldson, 1998; Das *et al.*, 1998; Hill *et al.*, 1998; Burke *et al.*, 1999; Busari *et al.*, 1999) have focused on knowledge and skills. Although junior doctors generally express satisfaction in these regards (Clack, 1994; Busari *et al.*, 1999), there is also evidence of perceived deficiencies in skills, ranging from practical procedures and clinical skills to attending to dying patients (Calman & Donaldson, 1991; Clack, 1994; Bogg *et al.*, 2001). Non-cognitive personal variables and attitudes, as well as team work and independent learning skills, have received little attention from researchers (Firth-Cozens, 1987; Clack, 1994).

There are also grounds for concern about the learning opportunities for house officers. Junior doctors appeared to spend much time on administrative and organizational tasks and relatively little time on formal medical training (Calman & Donaldson, 1991; Roche *et al.*, 1997; Bogg *et al.*, 2001). To date, this issue has remained underexposed. A better understanding of how junior doctors perceive the transition from student to doctor may help to identify gaps in the medical education continuum. For this purpose, we explored junior doctors' perceptions of this transition through focus group interviews.

Method

Focus group interviews

Focus group interviews are an established method to obtain qualitative information for orientation studies of new fields (Morgan, 1988; Hendershott

& Wright, 1993; Mutha *et al.*, 1997). They can elicit a variety of opinions. The interaction in the group interviews helps participants explore and clarify their views in ways that would be less accessible in one-on-one interviews. The reliability of the data is established by comparing statements across sessions. Similar results of different focus groups provide triangulation of the information obtained. Additional group sessions are held until no new information emerges.

Subjects

We conducted this study on the transition between clerkship and postgraduate training or non-training posts (house officership) among graduates from Maastricht Medical School, the Netherlands. Maastricht Medical School offers four-years of theory oriented problem-based education and extensive training in the skills laboratory, followed by two years of clerkships in hospital departments and general practice. Although graduates are qualified to practise medicine under supervision, completion of vocational training in general practice (3 years) or another specialty (up to 6 years) is required to practice medicine independently. Specialty training is the responsibility of the professional organizations and is mostly work-based with some formal education. Before choosing a specialty, many graduates take a non-training post. This educational pattern is similar for all Dutch medical schools.

We sent letters to 92 junior doctors, who had graduated in the same seven month period, explaining the purpose of the study and inviting them to participate. Of 62 (57%) respondents, 7 refused to participate, 29 were excluded due to not practising medicine or living too far away, 4 were unavailable on selected dates and 5 failed to turn up, leaving 17 participants in four focus groups (3-4-4-6). Women comprised 82% ($n=14$) of participants. Work experience averaged 4.8 months (range 1–7 months) and work settings varied, i.e. emergency department, psychiatry, cardiology, internal medicine, surgery, gynaecology, intensive care, public health and transplant team.

Procedure

The moderators of the two-hour group interviews were MW, a psychologist with considerable experience in focus group research, and KP, first author and assistant moderator. Participants were asked to describe what had gone well, what problems they had encountered and how they had dealt with those during their first weeks as a house officer, with particular attention for the effects of the transition from clerk to house officer. They were also asked to comment on the undergraduate curriculum and their present learning opportunities in light of their experiences so far. Finally, they were invited to propose ways to ease the transition from clerkship to house officership.

Data Collection and Analysis

The assistant moderator used the videotapes of the sessions to prepare an abridged transcript, containing comments directly related to the topic at

hand plus the first moderator's summary of each topic. The moderators discussed the transcript, and modifications were made. Next, related comments were combined, and the resulting report was discussed by the moderators. All participants were asked to verify that the report of their session was accurate and complete. After this validation procedure, the data were aggregated.

Results

Participants in three focus groups characterized the step from clerk to house officer as the most crucial transition since entering medical school. The main themes that emerged from the focus groups were: changes in responsibility, workload and work content; relationships with patients and health care workers; preparation by undergraduate training, problems related to practical procedures and feelings of uncertainty; (formal) learning; and suggestions for making the transition less burdensome.

Increased Responsibility

All focus groups mentioned 'increased responsibility' as a major change with positive and negative effects. They appreciated being taken seriously as house officers: "...if I say: 'left', everybody goes left" and "my policy is *the* policy", but increased responsibility brought strong feelings of uncertainty.

"At the beginning of this job I did not know more than I did as a clerk, but suddenly I had to take *decisions*."

"As a clerk I trailed along behind the house officer, occupied with how to behave and act; now that I'm a house officer myself I suddenly have a job to perform with accompanying responsibilities."

They were often uncertain what to do themselves and when to call their superior, particularly in emergencies. Generally, they thought they should try as best they could to manage on their own. Lack of experience with disease management, treatment and clinical decision making exacerbated their uncertainty.

"As a clerk it was a big thing to make a diagnosis, but now, all of a sudden I am also responsible for the *right* diagnosis and the *right* treatment."

Workload and Content

Except for three graduates who did not work evenings and nights, the participants thought the working hours were extremely long. In the hospital

with on-call rosters, most graduates worked many more hours than officially accounted for. They were reluctant to complain for fear of being rejected for training posts. The free evenings without the need to study and exams to prepare were an improvement from clerkship.

Most participants reported that organizing and paperwork, such as filling out papers, ordering tests and dictating letters of discharge, were a major part of their job. Their work was more demanding than clerkship, due to the long hours and increased responsibilities. The burden was alleviated when superiors were good coaches and shared responsibilities. Initially, uncertainty about what was expected of them took a heavy toll on their energy. They thought they received insufficient feedback to alleviate their uncertainties.

Relations with Others

Longer rotations compared with clerkships enabled the participants to build better relationships with patients and staff. One participant said: “finally I could stop shaking hands every week”. The participants enjoyed patient contacts. Changes compared with clerkship were increased responsibility and the task of giving information to patients.

The participants enjoyed being part of a team. As clerks their position was vague and at the bottom of the hierarchy, but now their position was above the nursing staff. Relations with nursing staff varied. The participants felt uncomfortable about some nurses being far more experienced than they were.

“Nurses know a lot, which can be very useful to rely on, but also annoying because you’re ‘above’ them in the hierarchy.”

Senior staff were regarded as ‘bosses’. Relations with superiors varied depending on the person. Some participants consulted their superiors frequently, others only rarely. The majority said they received little guidance. The lack of uniformity between supervisors was experienced as problematic.

Participants enjoyed contacts with fellow house officers. They felt supported when they could share experiences. Participants, who were not part of a team, felt they lacked this kind of support.

Preparation

History taking and physical examination skills posed no problems. Some participants mentioned feeling more skilled in history taking than their superiors. They felt well prepared for communication skills and found new tasks, like giving information and explaining findings to patients, relatively easy to perform. Despite some initial anxiety, most graduates discovered that their knowledge was satisfactory:

“Remarkable how much one in fact already knows”.

However, they had difficulty interpreting findings from history, physical and other diagnostic data, like x-rays. The desirability of better preparation for working independently was keenly felt. One participant said:

“(In my experience I have) good medical knowledge, social and clinical skills. However, there was no gradual build up of responsibilities, no guidance in learning to work independently and in taking decisions.”

Difficulties

Difficulties were mostly perceived concerning practical procedures, such as adjusting blood glucose levels, prescribing medication and filling out papers. Although the participants said they had quickly learned how to perform these tasks just by doing them, their initial lack of preparation poses a potential risk of serious problems.

“In the middle of the night, I had to adjust a drug dosage for a patient. It was not difficult, but I hadn’t done it before, and I had to wake my supervisor.”

In general, participants discovered to their surprise that their basic knowledge was sufficient and that knowledge they thought had vanished could be recalled pretty quickly. Real gaps in knowledge concerned prescribing medication, particularly in non-standard situations.

“I wanted to prescribe 10 mg of normison (the regular dose) for a patient with sleeping disorders, until the nurse told me that this patient took a thirty-fold dose during the day, now what?”

“... at which heart rate can you still give a β -blocker?”

Most difficulties concerned facts about treatment not easily found in books. These were rapidly resolved, however, by practical experience and the use of guidelines or protocols.

Learning and the Learning Environment

Only one or two participants saw learning as an essential part of house officership. The others thought their principal task was to provide health care, with learning taking second place. Only few organized educational activities were reported.

After work the participants were too tired to do much studying. They only searched information to solve immediate clinical problems, but were hoping to have more time for in-depth study later.

Feedback came in the form of clinical outcomes or was given by supervisors intent on ensuring good patient care but not for the purpose of furthering the house officer’s learning.

Participants with several months of experience reported having learned about assessing the seriousness of an illness and accepting uncertainties and responsibilities. They had learned to think in terms of differential diagnosis and therapy.

One focus group emphasized that the knowledge they acquired now was retained much better than when they were students, because they needed the knowledge not to pass an exam but to treat real patients. Moreover, longer rotations meant that they saw similar problems more frequently, which made knowledge easier to retain.

Suggestions for Improvement

Participants suggested improvements regarding content and structure of undergraduate education. They asserted that more patient contacts in the pre-clinical phase would enhance motivation and strengthen links between knowledge and practice, leading to more robust knowledge. More involvement of clerks in management and therapeutic decisions would provide better preparation for full responsibility as house officers.

Clerkships should provide a gradual increase in responsibility to facilitate the acquisition of knowledge about treatment and everyday practicalities, which the participants had learned by being “thrown in at the deep end”.

Discussion

The small sample, with a slight over-representation of women, may not be representative. However, the identical outcomes from the different focus groups provide triangulation of the information obtained. Although overestimation of problems seems inevitable in a study like this, the results suggest inadequate preparation for practice and deserve the attention of medical educators.

Participants' perceptions of unsatisfactory features of the work of a house officer largely mirror concerns stated in the introduction. For the majority, the most salient change from clerkship was the sudden, huge increase in responsibility. They were expected to make decisions about management and treatment, whereas as clerks they had never been expected to think about therapy. This finding is in line with studies by Clack (1994), which showed that graduates experienced a lack of emphasis on patient management as compared with diagnosis during clinical training.

The main deficiencies in knowledge perceived by the participants concern pharmacological and practical procedural knowledge, which are not addressed during clerkships. They recommended inclusion of training in practical procedures in the undergraduate curriculum. This supports the conclusions of Calman and Donaldson (1991) and Bogg *et al.* (2001). The participants also thought themselves ill prepared for multidisciplinary work, and teamwork and management skills.

The new responsibilities increased perceived workload, which might be alleviated by good coaching and clarity about expectations. Unfortunately, only a few participants reported receiving such support.

The absence of emphasis on learning is also reason for concern and confirms findings by Bogg *et al.* (2001). They reported that on average participants spent weekly about 5% of their time on organized, formal education. Our results suggest that house officers' learning occurs as a by-product of clinical work.

To ease the transition, participants recommended more active involvement of students in patient management decisions during clerkships. This is supported by a study by Xu *et al.* (1995), who found that students who reported playing an active role in teaching rounds, work rounds or conferences were more likely to be satisfied with their overall clerkship experience. The importance of active learning is reflected in the participants' experience that, compared with exams, patient care is a superior context for furthering retention of knowledge. The participants recommended a gradual increase in responsibility in the course of clerkship rotations. This is in line with advice by the Educational Review Committee in the Netherlands (VSNU, 1997) that clerks should have at least four weeks in which they examine, treat and manage patients independently, under careful and expert supervision.

Conclusions

Despite having completed basic medical training, graduates' medical education is far from finished. Contrary to the idea of an educational continuum, the participants in this study reported little formal learning. House officers' everyday reality seems far removed from the ideal training environment, where proficiency is gained gradually over a period of time and under supervision.

It is in the interest of the care provided by junior doctors that the transition from clerk to house officer is made less abrupt. A logical approach appears to be more emphasis on patient management and a gradual increase in responsibility during clerkship.

The results of this study seem to suggest a need for a new educational model where clerks and house officers can gradually move from learning by working to on-the-job learning.

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