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Interns as teachers of Medical Students: A pilot programme

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Abstract:

Background: In recent years, rising numbers of medical students and an increasingly demanding clinical workload has put new pressures on the educational systems for medical students in the hospital. Bedside teaching remains central to education but delivery of tutorials by registrars, tutors and consultants has proven to be increasingly difficult with the greater numbers of students now in the undergraduate system. **Aims:** We have performed a pilot study to determine the feasibility of developing a Junior Tutor Programme (JTP), to assist in the delivery of tutorials to undergraduate medical students. **Methods:** This was designed and delivered by interns under the supervision of the academic staff in the Departments of Medicine and Surgery in Connolly Hospital. The programme was evaluated by a questionnaire filled in by the students anonymously. **Results:** A supervised programme of tutorials delivered by interns is a potentially useful way to ensure delivery of clinical teaching to undergraduate medical students.

Introduction:

In the last ten years, the number of students enrolling in medical school in Ireland has increased substantially. The advent of graduate medical programmes in the last three years has further increased intake of students. The challenges presented by this increased activity include providing learning opportunities in the small group teaching setting, ensuring adequate numbers of hospital placements and preserving the place of direct patient contact at the bedside. Finding time to teach in an increasingly busy and demanding health service also represents a major challenge for medical staff. Traditionally, formal bedside teaching has been delivered by more senior members of the clinical team such as registrars and consultants or by dedicated clinical tutors. Although interns are often the first point of contact for medical students with the clinical team and interns may teach “on the run”, they have not traditionally asked to become involved in teaching of medical students in a formal manner.

As one of the Dublin teaching hospitals affiliated to the Royal College of Surgeons in Ireland, Connolly Hospital is allocated a large number of students at different stages of both the traditional 5/6 year medical programme and the graduate medical programme. Tutorials scheduled for these students have traditionally been delivered at registrar level or above. Due to clinical demands on registrars it is increasingly difficult to ensure that all tutorials are delivered in a timely fashion.

There is ample evidence to suggest that this is not an isolated phenomenon, but rather is becoming endemic of the clash between health service delivery, research interests and educational responsibilities faced by clinicians internationally, as noted by commentators from both the British Isles¹ and the US².

The aim of this study was to evaluate the practicality and efficacy of a Junior Tutor Programme (JTP), designed and co-ordinated by interns in Connolly Hospital and delivered to students in both the Graduate Entry Programme (GEP) and the traditional 5-year undergraduate programme (TUP).

Methods:

Intern tutors (n=2) were selected from the pool of interns (n=19) working in Connolly Hospital for the time period July'08 to June '09. The selected interns were chosen based on undergraduate academic distinction and an interest in teaching.

Regular tutorials in both medicine and surgery were delivered to students in the GEP (intermediate cycle – second medical year) and TUP (senior cycle, final medical year) during February and March 2009.

The tutorial topics selected were to focus on history taking, physical examination and emergency management of important medical and surgical conditions. The content of the tutorials was designed by the intern tutors, in conjunction with the designated senior medical and senior surgical tutor and approved by the supervising Professor of Medicine.

No formal training or instruction in teaching or education was given to the intern tutors as this study aimed to assess the success of an intern tutor programme without prior training in teaching.

No educational materials or resources were provided to the intern tutors again as we aimed to assess the success of this programme with minimal material support.

The project incurred no setup cost and the tutors were not remunerated and as such the project was run at no cost to the hospital or medical school.

The tutorials were organised, scheduled and delivered by the intern tutors. They were delivered during working hours at times that were feasible to the intern tutors and did not conflict with the student's formal timetable.

Tutorials were delivered to groups of between 4 and 6 students and lasted approximately one hour. The tutorials were led by the junior tutors, but emphasis was placed on student participation. At some point during the tutorial, each student was required to take a part of the history or examine the patient. Emergency management questions were then asked of all students in the group at the end of each tutorial.

At the end of each tutorial all participating students were asked to fill out an anonymous questionnaire specifically developed to evaluate the programme rating the tutorial and tutor in the following areas: tutorial relevance; tutorial detail; overall satisfaction with tutorial; tutor's knowledge of topic; tutor's knowledge around topic; teaching style; communication skills; ability to teach; overall satisfaction with tutor.

The students were asked to compare the intern-led tutorials with the other tutorials they had received during that educational year and rate each category as excellent, good, average, poor and unacceptable. All feedback assessments were anonymous.

A total of 17 tutorials were delivered. 3 tutorials were cancelled due to unavailability of tutor (n=2) or unavailability of students (n=1). A total of 83 students (n=33 GEP

and n=50 TUP) responded to the questionnaire. There was no statistical difference between the two groups.

The intern tutors experience of the project was ascertained by interview at the conclusion of the project. They were asked if they felt that participation in the JTP was beneficial to:

- Their theoretical knowledge
- Their clinical skills
- Their confidence in speaking/teaching to a group
- Their overall job satisfaction

Results:

The evaluation of the pilot programme was extremely positive (table 1).

All areas assessed were marked as excellent by at least 75% of responders.

Tutorial relevance was marked as 98% excellent.

Overall satisfaction with tutorial was marked as 96% excellent.

Overall satisfaction with the tutor was marked as 98% excellent.

There was no significant difference between the responses of the students in the two programmes.

Eighty-five percent (n=17) of the planned tutorials (n=20) took place as scheduled and only ten percent (n=2) of the tutorials were cancelled due to unavailability of the tutor.

Insert Figure 1.

The intern tutor's responses after participation in the programme were also very encouraging with both tutors reporting that their participation had improved their medical and surgical knowledge and clinical skills.

Both similarly reported that the experience had raised their confidence in addressing a group or teaching.

Most importantly for the ongoing provision of the project, both reported a high level of enjoyment of the teaching and stated that their participation had improved their overall job satisfaction. Both were keen to remain involved in undergraduate medical education.

Discussion:

As the most recent medical school graduates, interns are likely to be the group of doctors most acutely aware of the challenges experienced by students as they attempt to graduate from medical school. Nevertheless, possibly because of their heavy workload or that fact that they may be perceived as being too junior by senior staff, interns are rarely encouraged to become involved in formal teaching sessions for students.

A literature review conducted prior to the initiation of this project revealed no previous investigation of the use of interns as educators of undergraduate medical students. In this respect, we believe our programme to be unique.

Previous studies have shown the acceptability of peer teaching at an undergraduate level utilising senior students to tutor junior students^{3,4,5,6}. Others have illustrated the efficacy of this approach in the teaching of theoretical subject matter⁴, practical skills⁵ and bedside clinical skills⁶.

There is also evidence to suggest that teaching has a beneficial effect on the teachers, be they students themselves⁷ or post-graduates⁸, as it improves confidence and often solidifies knowledge learned previously.

Studies comparing the various techniques utilised in undergraduate education have suggested that no one approach alone is best but a combination of styles of teaching, from traditional lectures, as well as problem and case based learning sessions, to a less formal bedside tutorial programme leads to the best results⁹.

The specific method adopted in this programme, the small group bedside tutorial, although well-known to be an essential part of undergraduate medical education, has been shown to be underutilised¹⁰ and is the teaching method most threatened by the increasing pressure on medical educators that we are currently facing.

Our results indicate that from the student perspective, the JTP was a satisfactory and effective way for interns to contribute to the bedside education of undergraduate medical students. However, only academically high-achieving interns were chosen to be tutors and so we cannot assess whether all interns would be suitable tutors.

We plan to next embark on further trials with a control group receiving no intern-led education and an examination at the end of the trial to assess the efficacy of the tutorials.

The high percentage delivery (85%) of the tutorials indicates that the programme is a feasible concept from a logistics standpoint.

The project incurred zero cost to either the hospital or medical school involved and, as such, faces no financial barriers to further implementation.

Most critically, the intern tutors enjoyed their experience and expressed a desire to remain involved in undergraduate medical education. However, the successful implementation of this programme on a long-term basis will require the recruitment of similarly suitable and motivated interns on a yearly basis. We hope that positive feedback from previously involved interns will encourage new interns to enter the programme.

Conclusion:

While we accept that this is an uncontrolled and preliminary study with relatively small numbers of students and tutors, the data would suggest with appropriate guidance and supervision, interns can make satisfactory tutors and are capable of assisting in the education of the ever-growing numbers of medical students passing through the undergraduate system in Ireland.

Larger more comprehensive studies of interns as teachers are warranted to confirm this preliminary data, but they suggest that interns can have an important role in the teaching of medical students that may address some of the challenges provided by the larger intakes of students.

In the current climate where the European Working Time Directive has mandated a review of intern work practices we suggest that the restructuring of the intern working week could include dedicated time for teaching and that formal assessment of interns as teachers prior to full registration would be of benefit to the future of the profession.

Table 1: Results of the questionnaire administered to students

	Entire group Excellent/Good (%) (n = 83)	TUP Excellent/Good (%) (n = 50)	GEP Excellent/Good (%) (n = 33)
Tutorial relevance	98/2	100/0	97/3
Tutorial detail	86/14	90/10	75/25
Overall satisfaction with tutorial	96/4	100/0	90/10
Knowledge of topic	97/3	98/2	97/3
Knowledge around topic	89/11	94/6	82/18
Teaching style	90/10	90/10	88/12
Communication	96/4	98/2	94/6
Teaching ability	97/3	98/2	97/3
Overall satisfaction with tutor	98/2	100/0	97/3

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