Educational opportunities on a ward round; utilising near-peer teaching

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ABSTRACT

Near-peer teaching (NPT) has been shown to be useful in undergraduate and postgraduate medical teaching, but there is sparse knowledge of its applicability in clinical settings, such as the ward round. The current study assessed the suitability of NPT on a consultant ward round and ascertained its advantages and disadvantages as a teaching method in this setting. NPT was trialled on three consecutive consultant ward rounds on a palliative medicine inpatient unit in a cancer centre. Both learner (three junior doctors) and facilitator (one consultant) views were sought via questionnaires and interviews. Data were analysed using thematic content analysis. All participants felt that NPT gave a better educational experience compared with traditional ward rounds. Participants found NPT improved their own teaching ability, was quick and easy to use, and was tailored to the learner. More advantages were cited than disadvantages. Disadvantages were only mentioned by senior doctors and included time off the ward round and lack of teaching for the senior member of the near-peer pair. Thus, NPT could be a useful educational tool to provide differentiated learning in busy clinical settings. However, more research is needed to ensure that it can meet the learning needs of senior trainees.

KEYWORDS: Near peer, palliative medicine, teaching, ward round

Introduction

The term 'peer teaching', where one student teaches one or more other students, was introduced in 1988.[1] Near-peer teaching (NPT) refers to the teaching of junior peers by seniors in the same or similar discipline and is being increasingly utilised in medical education.[2]

The efficacy of NPT has been assessed through randomised controlled trials: one study found no statistical difference in pass clinical examination scores in resuscitation training between two groups of medical students: one expert led and one peer led.[3] Another study of catheterisation training delivered by either fellow students or associate professors found the NPT group outperformed the other with statistical significance.[4] Evaluation studies have revealed several advantages for learners, including provision of a safe, relaxed learning atmosphere and better ways of explaining difficult concepts.[2,5] Several disadvantages have been cited, including nervousness and lower clinical knowledge in near-peer teachers.[2,5] Benefits for tutors in near-peer pairings include perceived improvement in teaching ability and greater subject knowledge.[6,7] The General Medical Council stipulates that medical graduates must be able to 'function effectively as a mentor and teacher',[8] skills that could be achieved through NPT.

There are several gaps in the existing literature that this study hopes to address. Studies referenced above involved medical students or Foundation Year doctors and none could be found involving higher grades of doctor. The ward round provides interaction between consultant and trainees and constitutes a major opportunity for education; NPT has not yet been properly evaluated in this setting. One study published only as an abstract found NPT on a ward round had advantages of minimal preparation time, reduced bedside crowding and increased efficiency.[9] No published evidence could be found of NPT in palliative medicine. Based in a palliative medicine inpatient unit, this study explored the acceptability, advantages and disadvantages of using NPT during a ward round with senior and junior trainees.

Methods

This prospective study introduced the concept of NPT and trialled it on a well-established consultant ward round. Consultant ward rounds comprise a multidisciplinary team, including three trainee doctors (foundation year 1 (F1), general practitioner specialty training year 1 (ST1) and palliative medicine specialty training (ST6)). The concept of NPT was explained to the three trainee doctors selected as a convenience sample and they were invited, with no obligation, to participate. All agreed and gave verbal consent to participation, interview and potential publication. Ethics were approved by University College London as part of a masters in medical education. No sensitive or personal issues were discussed during the interviews.

Three ward rounds were undertaken. Each involved two NPT sessions, one between F1/ST1 and one between ST1/ST6. Topics were decided by learners or the consultant. At appropriate points

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in the ward round, one pair would leave, the senior learner would educate the junior for 5 minutes and then both would rejoin the round. Later, each learner recapped three learning points to the consultant outside the ward environment.

Purposefully designed questionnaires (supplementary file S1) were completed after each NPT ward round, as a quick way of gaining learner opinion. Opinion change was captured with each subsequent questionnaire as learners became more familiar with the teaching technique. Questions with fixed responses (using a Likert scale) were asked to obtain uniform results, followed by open-ended questions to allow freedom of response. The questionnaire was piloted on a junior doctor who was not otherwise involved in the study.

After all three NPT ward rounds, participants were interviewed using a defined interview protocol, designed using questionnaire responses (supplementary file S2). Standardised open-ended interviews were chosen above focus groups to encourage open and honest responses and to gather in-depth information. To reduce bias, interviews were conducted by a research nurse trained in interview techniques who had not been involved in the study. Interviews took place in a non-threatening, relaxed manner in a familiar room away from the ward environment with no interruptions. Interviews were audio recorded and non-verbal responses documented. Where appropriate, further information was elicited using prompts and probes. Participants were not asked any personal information apart from their grade and training status. No patient information was used or discussed. Interviews were transcribed verbatim by a medical secretary. To maintain confidentiality, pseudonyms were used in the transcription.

One author (SF) listened to all interviews to check transcription accuracy and to ensure a firm grasp of the data at source. Results were analysed using a qualitative content analysis, involving reading transcripts and developing a detailed coding system of concepts and themes. This was an iterative process that involved revisiting transcripts and tapes until all comments had been assigned a code.[10] Responses were compared across and between participants to uncover common themes and clarify differences in opinion. Any outlier responses were examined to ascertain their significance. Saturation was reached after four interviews. After transcription, only the authors had access to interview material, which was kept securely on site and is the property of the NHS Trust. The study complies with the Consolidated Criteria for Reporting Qualitative Research (COREQ).[11]

Results

None of the participants had prior knowledge of NPT. All were extremely positive about NPT as a technique and felt that it gave a better educational experience compared with traditional ward rounds.

Consultant: *It really did promote the educational side … I have actually definitely spent some time on education, whereas my normal ward round teaching is very ad hoc, and sometimes they do get a bit of teaching if one's so inclined.*

ST6: *It's made me kind of re-engage with my educational needs.*

Box 1. Advantages of near-peer teaching

- less intimidating because from a colleague
- safe, secure, learning environment
- repetition through learning from colleague, then presenting to consultant
- case based
- one-to-one
- tailored content
- away from ward environment
- easy to use
- quick
- easy to remember; one in-depth topic with three learning points
- increased education on ward round
- promotes team interaction
- improves teaching skills
- uses less consultant time.

In practice, NPT took between 5 and 25 minutes per session. The teaching was patient centred, which helped trainees relate to and engage in learning. In some instances, teaching directly influenced outcomes; for example, when there was uncertainty over which antibiotic to prescribe, NPT was used to research drug guidelines and inform clinical decision making.

Study participants identified more advantages (Box 1) than disadvantages (Box 2). Most disadvantages were identified by the senior participants, whereas junior participants cited only advantages, even when specifically asked to identify disadvantages:

F1: *I didn't dislike any part of it, I thought it was fantastic.*

ST1: *There is not much anything bad to really say about it – I think it is a good idea.*

Advantages mentioned by all included being taught by someone of a similar grade, which was less intimidating and promoted a safe learning environment. Participants found NPT quick and easy to use, and tailored to the learner:

ST6: *It is a quick, short way of picking at something that is clinically relevant.*

Box 2. Disadvantages of near-peer teaching

- time off ward round
- interruptions
- lack of preparation time
- resources
- lack of feedback for teachers
- unknown educational impact
- lack of teaching for senior member of pair.

The repetition element of NPT was positively rated. The F1 described being:

Taught at two different levels, firstly by a junior doctor … then afterwards when you go to present to your consultant … going back through it is a much more positive experience and builds your confidence.

This was raised by other participants, who felt that NPT was likely to provide learning that would be lifelong:

ST1: *It is probably what we will need for life eventually as a doctor and I think that will stay in my mind more than anything.*

An unexpected benefit was increased team interaction and morale:

ST1: *It is a nice way to bond with your peers as well because you spend a little extra time with them so I think juniors need that.*

One surprising finding was how little trainees felt they had to give as clinical teachers:

Consultant: *The ST1 said to me at the beginning 'I don't know anything she doesn't'. I thought well actually yes, you do, you have been in medicine two years longer, you are a higher grade, you are much more competent, there is a lot you can give – she didn't realise how much she could facilitate learning for the junior.*

All agreed that NPT increased their teaching ability.

F1: *It helps you learn to teach others.*

The predominant disadvantage was time away from the ward round:

ST1: *The only thing I dislike is taking time off the ward round, I think that you always miss things that go on and conversations with patients.*

The ST6 mentioned frequent interruptions, unknown educational impact, and a lack of preparation time, teacher feedback and teaching for senior trainees as disadvantages.

ST6: *I would quite like to be taught something, whereas as a registrar you always seem to be doing the teaching.*

Both the consultant and ST6 expressed concern that NPT is least beneficial for more senior doctors, although the ST6 acknowledged that NPT had improved their teaching ability and was valuable as an educational prompt.

ST6: *It has made me teach much more on the ward round.*

All participants were keen to use NPT in the future and found it well suited to ward round use:

F1: *Definitely I think we should be doing more on ward rounds.*

ST1: *If I had known there was something like this, I think I would have asked in the other medical teams if we could do this.*

Discussion

This study is the first to investigate the use of NPT with higher grades of trainees. Although it took place on a palliative medicine ward round, there is the potential for the technique to be translatable to other specialties. Thus, further work to establish the usefulness of NPT in, for example, an acute medical or surgical ward, would be useful.

The over-riding view of participants was that NPT was enjoyable and a valuable way to gain knowledge, a finding endorsed by others.[12] The structure of the NPT sessions was similar to that adopted by Crawshaw and some similar advantages were identified (safe learning environment, tailored teaching and consolidated learning)[9] as were some key differences. For example, reduced bedside crowding was not mentioned (this might have been because the ward round studied was not large). Our participants believed that NPT was likely to have a sustained impact, because of not only the case-based, one-on-one nature of teaching, but also the repetition, which served to imprint learning.

Trainees had a surprisingly low opinion of themselves as educators at the beginning of the study and NPT proved to be a valuable training aid in this respect. All agreed that their teaching ability and confidence had improved and, although this has been cited by others as one of the main advantages of this technique,[6,7] it had not been the primary driver here. For this reason alone, a short period of NPT would appear to make sense in any clinical ward round setting.

Time away from the round was the main disadvantage identified. Even though sessions were intentionally short, there was concern that clinical information would be missed. Disadvantages, such as nervousness of teachers and poor clinical knowledge,[2] were not evidenced within our group. Potentially, learners could be disadvantaged by poorly performing near peers, but reiteration of learning points with the consultant would ensure that problems would emerge rapidly. Senior doctors cited more disadvantages than junior doctors, but agreed that ward-round education and teaching ability had improved. One other important disadvantage was that the senior trainee delivers training to their near-peer but gets correspondingly less in return. Therefore, it is vital to ensure that the educational needs of senior trainees are met in some other way.

Study limitations include the possibility of bias; the ward round consultant (SF) was a clinical supervisor of participants and had designed and run the study; this could have influenced participants, despite our best efforts to the contrary. This bias was minimised by emphasising there would be no consequences of non-participation and by using an independent researcher to conduct interviews and another to transcribe tapes and anonymise data. Unfortunately, the small number of participants made transcript data identifiable to the analysing researcher. The relationship as researcher and facilitator resulted in a connection to the raw data that provided a link between the research intervention, analysis and manuscript, thus ensuring that results remained true and anchored to the data. This was a small-scale study, performed in one setting with three trainees. However, data saturation was reached, with no newly emergent themes during the fourth and final interview. All three trainee doctors working on the ward were present for all three NPT ward rounds in the study. Outside the study period, when trainees are absent because of annual leave and other commitments, two NPT pairings would not always be possible and this could limit NPT as a teaching technique in some instances.

Recommendations

- The use of NPT in other specialty settings needs investigating.
- Studies to explore the potential long-term educational benefit would be useful.
- More work into how, or whether, this technique can operate successfully for senior trainees is needed. ■

Conflicts of interest

SF was the consultant on the near-peer teaching ward rounds.

Author contributors

SF conceived and designed the study, led data collection and analysis, and drafted the manuscript. SG performed the interviews. SG and SF contributed to the final manuscript.

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Supplementary material

Additional supplementary material may be found in the online version of this article at http://futurehospital.rcpjournal.org/:

S1 – Questionnaire.
S2 – Interview protocol.

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