



Commentary

Near-peer teaching in osteopathy clinical education

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ABSTRACT

Osteopathy students learning in university clinics forms a substantial portion of the Australian students' clinical education program of activities and within them, junior students are encouraged to observe more senior students during their consultations with patients. This is near-peer teaching. However, scholarly analysis of this component of osteopathy education is underrepresented in the literature. For that reason, this commentary describes the underpinning educational theory and how near-peer clinical education is used in osteopathy in the Australian context. Some challenges and opportunities of this approach are discussed. Near-peer clinical education has the ability to enhance a junior and senior students' clinical education, to strengthen the notion of a *community of learning*, and also to develop a student's ability to educate others - potentially developing future clinical educators. Research into near-peer clinical education in the health professions is in its infancy worldwide and therefore presents an opportunity for osteopathy teaching institutions to not only evaluate its use, but contribute to the ongoing discourse.

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1. Introduction

Near-peer teaching is receiving increasing attention in the health professions education literature. A *near-peer* is typically a student who is in the same education program but one or more years ahead of those students whom they are 'teaching'. Bulte et al. [1] succinctly define a near-peer as "... a trainee of one or more years senior to another trainee on the same level of medical education training" (p. 583). This contrasts to a *peer* where the trainees are at the same level. There are numerous studies into the use of near-peer teaching across a variety of health professions including medicine, nursing [2], pharmacy [3], physical therapy [4,5], physiotherapy [6], occupational therapy, and osteopathy [7]. Where near-peer teaching has been employed it is generally in the teaching of anatomy [8–15], pathology [16], and clinical examination skills [17–22].

Near-peer teaching is thought to benefit both students in the near-peer teaching, learning or assessment activity. Authors attribute these benefits to the concepts of cognitive congruence and social congruence [1,5,23]. *Cognitive congruence* relates to the small

'distance' between the student and the near-peer in terms of their program of study. This congruence allows the near-peer to potentially explain concepts and describe useful educational strategies more effectively than a lecturer or educator, drawing on their own recent experience with the same material [23,24]. The near-peer is likely able to relate better to the material being taught to the student(s), again having just experienced this material themselves. *Social congruence* refers to the fact that the near-peer and student are closely linked in their community of practice and their interaction therein beneficial [23].

Benefits to the near-peer teacher include improved communication skills, solidification of their knowledge base, deeper understanding of material being taught and development of teaching skills [25–30]. The latter is not only important for developing as a health professional but also an expected competency and/or requirement for registration in many professions, including osteopathy. For example, the Osteopathy Board of Australia Code of Conduct part 10.1 states that:

"Teaching, supervising and mentoring practitioners and students is important for their development and for the care of patients or clients. It is part of good practice to contribute to these activities and provide support, assessment, feedback and supervision for colleagues, practitioners in training and students" [31] (p. 22).

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The pre-professional curriculum is expected to produce graduates with the necessary capabilities to manage their professional lives and for that reason, developing students teaching and learning practices prior to graduation will assist in meeting the expectations of this part of the Code of Conduct [32]. This notion is supported by numerous authors who advocated the inclusion of teaching skills development in pre-professional curricula [33–36].

Students also benefit from near-peer teaching in that they have exposure to role-models [28,37,38]. Students who engage in near-peer teaching demonstrate increased confidence with the application of clinical skills [19,39]. Near-peer teaching can contribute to the development of a positive learning environment [1,26,40,41]. Hammond, et al. [42] demonstrated that near-peer teaching afforded students the opportunity to clarify concepts and raise questions away from teaching staff – essential elements of a positive learning environment.

2. Near-peer clinical education

Many studies have described the use of near-peer teaching in the early years of a teaching program, particularly in the basic sciences [8–11,16,43] and early clinical examination skills curriculum [17–20,44]. The literature is growing on the use of this educational strategy within the clinical education context which, in medicine, is referred to as “near-peer bedside clinical teaching” [45].

Vaughan et al. [47] in their commentary on the approach to clinical education in the osteopathy program at Victoria University (Australia), described the use of a near-peer clinical education approach whereby junior osteopathy students observe senior students treating patients in the student-led on-campus clinics. These authors identified that students in year 3 of the program begin their substantive clinical education by observing students in later years of the program manage patients in the student-led on-campus clinic. Furthermore, junior students participate in aspects of the management of patients at their skill, knowledge and confidence level. Vaughan et al. [47] proffered “How much of an impact this arrangement has on the development of the year 3 students is unknown at this time” (p. 201). The collective experience of the authors of the current commentary suggests that this impact is variable and in many cases, determined by the desire of the treating student to allow the junior student to take a role in patient management. That role may be at the point of patient care (i.e. with the clinical educators permission undertaking components of assessment and/or applying osteopathic techniques within their scope of learning), and/or contributing to clinical reasoning discussions which we know has substantial educational benefits. Woods [45] described this type of learning in medicine as the informal, unstructured near-peer teaching that takes place in the clinic.

3. Challenges and opportunities

3.1. Challenges

There are a range of challenges with the implementation and ongoing implementation of near-peer clinical teaching. Near-peer teaching activities in any clinic have implications for patient safety, patient-centred care and health outcomes. Central to thinking here, is the need to ensure patient safety and to maintain the appropriate levels of health-care delivery. It is timely to debate potential consequences for the students and patients that could arise if:

- A near-peer teachers' knowledge, clinical skills or advice to a student is substandard or incorrect;
- The student disagrees with the near-peer teacher and does not take on-board advice offered; and/or
- A learner noted the near-peer teacher acting in an unacceptable, unethical way or, making an erroneous decision or omission.

If say a near-peer teachers' clinical habits and procedures were poorly executed, they may be unwittingly learnt by the observing student. In this way, an incorrect or substandard application of a clinical skill might be perpetuated if unnoticed by the clinical educator or others. With regard to medical education peer-assessment, Iqbal et al. [48] raise similar concerns regarding quality of feedback, authenticity of assessment experience, reduced opportunity for student-clinical interaction, and managing misconceptions around various aspects of clinical presentations. These issues also require program administrators to consider the role of near-peer assessment in the clinical education context, that is, should these assessments be used in a formative manner, summative manner or both.

For the clinical educator who is charged with the legal and moral responsibility for patient care, as well as assuring quality clinical education, work needs to be done to clarify what their obligations are in relation to supervision of near-peer teaching in clinic (Table 1). Potential risks need to be identified, then procedures, processes and documentation developed to support near-peer clinical teaching. Such documentation should describe the levels of accountability for the near-peer, student and the clinical educator, and training needs must be established. Clinical educators are held to accepted professional standards determined by their registration as a health professional, and required to possess particular knowledge. The main concern here is vicarious liability – *negligent entrustment*, which can occur in teaching hospitals [49].

'If you are on staff at a teaching hospital, you have contractually agreed to supervise residents. By virtue of this agreement, plaintiffs can present evidence that negligent supervision contributed to a patient's injuries' [50].

What of ethics? How, when and by whom will the patient be informed? Frameworks need to be presented for discussion to mitigate risks and ensure quality clinical and education outcomes as they have been presented for peer-assisted learning, planning and implementation [51] and evaluation of the same as exemplified in peer-assessment of clinical skills in nursing [52]. The application of peer-assisted and peer-assessment frameworks to near-peer teaching requires further investigation and discussion.

Choosing which students to participate in a near-peer program may also be a challenge. Do we pair 1st years with 5th years, 4th years with 5th years? A potential benefit of having 1st year student's pair with final year students is that the 1st year students would clearly see what is involved in the clinical practice on a day-to-day basis. This would allow an early opportunity for them to decide whether they had commenced on the right study trajectory for them. This may prevent the student completing the full degree and leaving the profession, due to a mismatch between the education and the practice of the profession. Further, they can begin to appreciate practice as an osteopath. Vaughan et al. [47] described the pairing of year 3 and 4 students in the osteopathy program at Victoria University. These authors suggested this was done for both pragmatic reasons, and to assist with patient handover at the end of teaching year. Which pairings to use will likely be an individual institutions' choice.

Table 1

Questions to stimulate debate and further research into near-peer clinical education.

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- What activities are currently included in near-peer teaching during osteopathic clinical education in university health clinics?
 - What constitutes ethical, legal and educationally sound near-peer activities?
 - Is it legitimate that a student participates in *some* aspect of patient management with their near-peer? If so, what can they do?
 - Is 'observation of a near-peer' a non-productive activity that might dishearten a student and negatively impact the learning environment and their own learning?
 - Does a negative near-peer teaching or learning experience result in a negative attitude toward being a near-peer in later years of the program?
 - What are the roles and responsibilities of the clinical educator in the near-peer clinical education relationship?
 - How does this effect the clinical educator's duty of care (vicarious liability)?
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3.2. Opportunities

Although there are challenges associated with near-peer clinical teaching, there may well be more advantages with its implementation. Once trained in near-peer teaching, student teachers appear to be able to teach clinical skills to more junior students just as well as clinical staff [37]. Pairing students using a near-peer model has also been shown to assist student transition from classroom to the clinical environment [53,54]. Near-peer clinical teaching in a workplace-based learning setting has the potential to improve clinical skills, clinical knowledge and develop the clinical schema of the near-peer. Whilst the near-peer may lack the clinical skill and experience of a qualified health professional, previous research has identified they are proficient teachers of clinical skills [22].

Participating in near-peer teaching has been shown to increase the near-peers' reflection on practice, and increase confidence in their skillset [55]. Being required to teach a skill or describe the knowledge being utilised at a particular point in time may bring to light a personal lack of understanding or ability. Having to teach and model clinical skills may therefore provide near-peers with a learning opportunity for reflection. Improvement in communication skills and the ability to communicate with a range of patients/learners is also a reported positive outcome for near-peers [35]. How these improvements translate to patient care in reality requires further investigation.

4. The way forward

Research in medical education suggests it is likely that junior medical students derive benefit from one-on-one near peer teaching [45]. Therefore, it is worthwhile exploring if the same holds true in osteopathy clinical education and have posed several questions relevant to the debate (Table 1).

To make the most of near-peer clinical teaching - for the student, near-peer and clinical educator - training for near-peers is required. Program administrators have the option of including this training as part of the curriculum, or as an addition [56]. Such training programs should recognise that teaching in the clinical environment is different to the classroom [55,57]. Numerous authors have also advocated that participation in near-peer teaching should only be allocated to interested students [57–59], rather than for all students. This may assist program administrators to make such a system more sustainable and also allow students to be allocated to near-peers through timetabling rather than on an ad-hoc basis. Students can then derive maximum benefit from their interaction with the near-peer. That said, the motivation of a near-peer to become involved in a teaching program may not lead to improved educational outcomes and this area requires further research.

The near-peer clinical educator could be referred to as the "journeyman, [an] intermediate between 'apprentice' and 'master', with both learning and teaching tasks ..." [37] (p. 591) and is likely to be "... a valuable but yet under-recognized source of education in the medical [health professions] education continuum" [37] (p. 591).

Engaging students in clinical education during their pre-professional training provides an opportunity for those who are interested in being involved in education to develop their teaching skills from an early stage in their career [36]. It may even be possible to create an education trajectory within a clinical degree, whereby near-peer training is provided as an opportunity to engage in a teaching certificate or diploma, or the like, that has the potential to add to the pool of health profession educators [35,60].

Incorporating near-peer clinical teaching, with a training program for potential near-peers, has the potential to reduce the workload on clinical educators [45], it does not however negate their liability. The supervision and management of students is shared somehow between the near-peer and the clinical educator – this somehow is unknown at present. That being said, clinical educators need to encourage near-peer activities and also model interactions with junior students [59], whilst maintaining oversight to ensure patient safety [55]. For the junior students, working with a near-peer in the clinical setting may encourage them to become a near-peer teacher in the future [45].

5. Conclusion

The literature on near-peer teaching, both in the classroom and clinical environments, suggests there is benefit in utilising this approach as part of a health professions education program. Within the clinical education component of an osteopathy teaching program, educators should recognise there is inherent value in the near-peer teaching that likely already takes place in their institution. Conversely, there are challenges, legalities and ethics to consider with near-peer teaching that need to be addressed in order for a junior students' clinical education to be worthwhile. As such, this commentary was designed to provide an overview of the literature in the hope that it will stimulate both debate and research into the benefits and challenges of near-peer teaching in an osteopathy clinical education environment.

Ethical statement

Ethics approval was not required.

Statement of competing interests

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