Intradisciplinary Clinical Education for Physiotherapists and Physiotherapist Assistants: A Pilot Study

Wilma Jelley, Nathalie Larocque, Sarah Patterson

ABSTRACT

Purpose: This study investigated the perceived impact of a paired 5-week clinical placement on physiotherapy (PT) and physiotherapist assistant (PTA) students' skills. Students were supervised by a PT clinical instructor (CI), and a collaborative peer-coaching model was used.

Method: Three pairs of PT and PTA students participated in concurrent paired placements incorporating the concepts of reciprocal peer coaching and the 2:1 model of supervision. Qualitative data were gathered using pre- and post-placement interviews and the participants' journals.

Results: The participants reported that using this clinical education model increased their self-directed learning. This outcome was anticipated by the researchers with the incorporation of the 2:1 model of supervision. The post-placement interviews also indicated that there was informal teaching among students, as expected from the integration of reciprocal peer coaching. Participants reported an improvement in the students' competencies in communication, consultation, and assignment of tasks within the physiotherapy team. The students further reported an increase in their confidence with regard to their respective roles and an improvement in their ability to work effectively within the physiotherapy team.

Conclusion: As indicated by the comments and reviews of the participants, pairing PT and PTA students on clinical placements and incorporating a collaborative peer-coaching model can result in improvements in the students' skills in communication, consultation, and assignment of tasks.

Key Words: collaborative learning, intradisciplinary clinical education, peer-assisted learning, physiotherapist assistant, physiotherapy

Jelley W, Larocque N, Patterson S. Intradisciplinary clinical education for physiotherapists and physiotherapist assistants: a pilot study. *Physiother Can.* 2010;62:75–80.

RÉSUMÉ

Objectif : Cette étude a investigué les effets perçus d'un stage clinique jumelé de cinq semaines sur les compétences des étudiants en physiothérapie et en assistant du physiothérapeute. Les étudiants ont été supervisés par un instructeur clinique en physiothérapie (IC) et le modèle d'encadrement collaboratif par les pairs a été utilisé.

Méthode : Trois paires d'étudiants Pht et AP ont participé à des stages jumelés concurrents incorporant les concepts d'encadrement réciproque par les pairs et le modèle de supervision 2 : 1. Des données qualitatives ont été recueillies dans le cadre d'entrevues réalisées avant et après les stages, et des journaux de bord des participants.

Résultats : Les participants ont rapporté que le recours à ce modèle de formation clinique permettait d'accroître l'apprentissage autonome. Les chercheurs s'attendaient à ce résultat en raison du recours au modèle de supervision 2 : 1. Les entrevues réalisées après les stages ont aussi révélé qu'une forme d'enseignement informel avait lieu entre les étudiants, comme attendu lorsqu'il y a intégration d'encadrement réciproque par les pairs. Les participants ont signalé une amélioration des aptitudes des étudiants pour la communication, la consultation et l'attribution de tâches au sein de l'équipe de physiothérapie. Les étudiants ont par la suite indiqué avoir davantage confiance en eux dans le cadre de leurs rôles respectifs et constater une amélioration dans leur capacité à travailler efficacement au sein de l'équipe de physiothérapie.

Conclusion : Tel qu'indiqué dans les commentaires et les analyses des participants, le jumelage d'étudiants physiothérapeutes et aide-physiothérapeutes dans le cadre de stages cliniques et l'incorporation d'un modèle d'encadrement par les pairs peut déboucher sur des améliorations dans les habiletés en communication, consultation et attribution des tâches pour les étudiants.

Mots clés : apprentissage collaboratif, éducation clinique interdisciplinaire, enseignement par les pairs, physiothérapeute adjoint, physiothérapie

Funding for this study was received from the Support for Interprofessional Research and Education (SIRE) Program, Academic Health Council—Champlain Region, 2007–2008.

The authors have no conflicts of interest.

The authors would like to thank the physiotherapists and physiotherapist assistants from the Ottawa Hospital and Hôpital Montfort and the students from the University of Ottawa and La Cité collégiale for their contributions to this project. The authors would also like to recognize the assistance of Kelly Mercier-Dubord.

Wilma Jelley, MEd, BScPT: Academic Coordinator Clinical Education, Physiotherapy Program, University of Ottawa, Ontario.

Nathalie Larocque, BScPT: Professor and Coordinator of the Occupational Therapist and Physiotherapist Assistant Program, La Cité collégiale, Ottawa, Ontario.

Sarah Patterson, MA, BScHK: Research assistant, University of Ottawa, Ontario.

Address correspondence to Wilma Jelley, School of Rehabilitation Sciences, University of Ottawa, 451 Smyth Road, Ottawa, ON K1H 8H5 Canada; Tel.: 613-562-5800 ext. 8013; Fax: 613-562-5428; E-mail: wjelley@uottawa.ca.

DOI:10.3138/physio.62.1.75

INTRODUCTION

Although the use of support personnel in physiotherapy has been in place for several decades in Canada, definitions of roles and responsibilities vary between provinces. In the United States, where the physiotherapist assistant (PTA) position was established more than 35 years ago, the role remains ill defined.¹ In the current Canadian health care environment, the focus is on a team-based approach to client care for the purposes of cost containment, efficiency, and productivity. Therefore, the ability of physiotherapists (PTs) and PTAs to collaborate and work as an effective rehabilitation team in primary patient care is essential. Initially, the objective of involving the PTAs in primary care was to increase the efficiency of patient services by enabling more individuals to receive physiotherapy and allowing PTs to concentrate on advanced clinical decision making required for delivery of services.² Unfortunately, physiotherapy (PT) and PTA students get little or no experience in working together as a team during their education, despite the fact that in the workforce, PTs and PTAs are expected to practice collaboratively. It should also be noted that a lack of familiarity with scope of practice significantly reduces the ability to work collaboratively.³ Thus, it is essential to prepare PT and PTA students in the competencies needed for collaborative practice prior to graduation. Some of the key elements of collaborative practice are cooperation, communication, responsibility, and coordination.⁴ When PT/PTA collaborative practice was looked at specifically, appropriate and effective interaction, assignment of tasks, and consultation were identified as essential skills and key elements.⁵

For the purposes of this study, the term “intradisciplinary” will refer to work and/or study within one discipline (physiotherapy) and “collaborative practice” will be defined as working together in a joint effort toward the goal of optimal patient care.⁴ Two recent studies have specifically examined strategies for the development of the PT/PTA collaborative relationship at the pre-entry-to-practice level.^{1,5} The 2:1 (two students to one clinical instructor) model of supervision during clinical placement was found to yield the most positive results.⁵ The value of situating shared learning experiences in the clinical setting has been supported by other research findings.⁶ Peer-assisted learning and the 2:1 model of student supervision in clinical placements have been used effectively in physiotherapy clinical education with students matched from the same academic level.⁷ This approach was found to have several advantages: increased self-directed collaborative learning by students as well as increased teamwork and collaboration between students and clinical instructor (CI).⁵ Reciprocal peer coaching (RPC) has been examined more recently in physiotherapy clinical education with students at different levels of training.⁸ In a study of RPC,

informal teaching and discussion between students were viewed as less threatening than corrective teaching from a CI, and RPC was shown to have a significant positive influence on students' clinical reasoning and communication skills.⁸ The present study employed both approaches, using the 2:1 model of student supervision with RPC.

The study examined the perceived impact of a PT and PTA student shared clinical placement. The students were supervised concurrently by a PT CI in a 5-week clinical placement using a collaborative and reciprocal peer-teaching model. The specific outcomes investigated were perceived changes in the PT and PTA students' skills in communication, consultation, and assignment of tasks within the physiotherapy team.

METHODS

Participants

Three third-year PT students from the University of Ottawa and three second-year PTA students from La Cité collégiale were recruited to participate in the 5-week shared clinical placement experience. The PT students were enrolled in a 4-year bachelor's degree program in physiotherapy and had 7 weeks of prior clinical placement experience. The PTA students were in their final year of a 2-year occupational therapist assistant and PTA college diploma program and had 12 days' previous clinical placement experience in various areas of practice. Three physiotherapists with numerous years of experience as CIs were also recruited for the study. They all worked in primary-care services on teams with PTAs. The three PTAs who worked alongside the three CIs also agreed to be involved in the study and acted as clinical mentors for the student pairs.

Intervention

The PT and PTA students were randomly matched and assigned to one of the CI/PTA pairs for the shared clinical placement. Prior to the start of the clinical placements, an educational session was held for the CI/PTA pairs and a separate informal information session was held for the students. During the CI and PTA session, information on facilitating learning in the 2:1 model of supervision with RPC was reviewed and various strategies were discussed. The physiotherapy regulatory guidelines on student supervision were also discussed. The session for students involved an introduction to the concept of peer-assisted learning and a review and discussion of the same physiotherapy regulatory guidelines. The students did not receive training on RPC.

During the 5-week clinical placements, each student was required to work on and meet the program requirements for her discipline-specific competencies. Using the essential elements of collaborative practice as a guide,^{3,4}

the students were also given direct and indirect client-related tasks that emphasized cooperation, responsibility, communication, autonomy, coordination, and respect. The CIs were advised to use the essential elements as guidelines and were encouraged to apply them as opportunities arose.

The research budget was used to allow the CIs and PTAs release time to attend the educational session prior to the start of the clinical placement and to devote 4 half-days during the clinical placement to the orientation, instruction, and evaluation of the PT/PTA students.

Study Design

The changes in the students' competencies related to collaborative practice would be determined based on the qualitative evidence gathered from the participants' journals and from the pre- and post-placement interviews. The PT and PTA students, CIs, and PTAs completed pre- and post-placement experience interviews (see Appendix for interview guides). All interviews were conducted by the same investigator (SP).

To further complement the qualitative data collected during the interviews, all participants were given a blank journal and asked to write their thoughts on their experiences at any time during the 5-week shared placement. Generally, the only unprompted reflection individuals accomplish during a typical day occurs when something has gone wrong or when they fear failure.⁹ When circumstances are uncertain, unique, or in a state of conflicting values, we launch into a reflective problem-solving situation.¹⁰ In view of the fact that this reflective process is often internal, journals have been used in past research to capture and reveal a greater breadth of an individual's learning process.¹¹ This data-collection method, in turn, strengthens the likelihood that the data gathered will express the range of experiences and consequences of involvement over a particular period. This approach of recording thoughts in a journal complements the data collected from the post-placement interviews, which drew on participants' ability to recall events and information from the placement.¹² Ethical approval was obtained from the University of Ottawa Research Ethics Board.

Data Analysis

The qualitative research software NVivo 8 (QSR International, Cambridge, MA), designed to facilitate the exploration of trends and patterns within a data set, was used to review, classify, and sort the pre- and post-placement interview data for all 12 participants. In order to complete the process, the audiotaped pre- and post-placement interviews for each participant were transcribed and imported into NVivo 8. The significant statements and key points were identified and coded accord-

ing to the specific themes established in the research questions. Pre-placement interviews were coded according to the following themes: 2:1 model; expectations and hopes for the experience; and advantages, disadvantages, and potential improvements of intradisciplinary team collaboration. Post-placement interviews were coded with the following themes: participant definition of interdisciplinary collaboration, overall experience, advantages and disadvantages of the experience, concerns, and motivation to participate. The coded data were then gathered into "nodes," which permitted data from all sources related to a certain theme to be summarized together. The analysis continued by querying the data using the powerful NVivo 8 search engine, allowing combinations and comparisons across and within the nodes. NVivo 8 query tools were also used to uncover subtle trends within the data. The emerging results could be arranged and rearranged easily for comparison to results obtained from the other source of qualitative data, the participants' journals. The data from the journals were reviewed and coded manually. All three investigators participated in the data analysis.

RESULTS

All the participants in the study were female. The CIs had a minimum of 10 years' clinical practice experience. The average age of the students was 21 years.

Based on the comments made by all participants during their pre-placement interviews, it was evident that they had a clear understanding of the essential elements of collaborative practice. Responses to the question about participants' expectations from the shared placement experience were very positive, mentioning professional growth, increased learning, and the opportunity to experience teamwork in the clinical setting. The researchers found evidence in the post-placement interviews and in participants' journals of increased self-directed collaborative learning by the students, as was anticipated from the use of the 2:1 model. There was also evidence that informal teaching between students was perceived as less threatening.

Participants' perceptions of the effect of the paired 5-week placement were very comparable to one another. The following are examples of participants' perceptions of the changes in students' intradisciplinary collaborative competencies:

Certain days we'd have like 20 [patients] to see ... In the morning we'd sit down, discuss it ... like the patients we'd see together ... we really figured out ways to get around our schedule and basically get through our schedule. Because if not we would never see the patients ... if we wouldn't have done that it would never have worked. (PT student interview)

She [PT student] really found that she learned a lot about the physiotherapist assistant's role that she didn't know before. So she had very clear outlines of what they did, what they could do, what they could not do. They discussed their education and what they learned in their courses and when she delegated, she knew what she could delegate and what she had to do on her own. (CI interview)

Now I know a bit more about the mentality of why they [physiotherapists] are asking us to do certain stuff. (PTA student interview)

Well she [PTA student] was good ... because she has a better eye than me so sometimes she could pick things up that I didn't see. (PT student interview)

[PT and PTA students] have gotten into a rhythm in their daily tasks producing excellent care to patients. (CI journal entry)

I thought it was interesting from the beginning, seeing them learning together at the same time. It [learning together] worked all the way along they learned who did what and how to organize their time and lots about communicating. (PTA interview)

From the data collected during the post-placement interviews, it was clear that it was very important to provide students with a balance of independent and collaborative duties. Notably, those CIs who were perceived as the most adaptable by the students were identified with the most positive learning experiences. Students noted a CI's adaptability by describing her as being understanding and accommodating of different learning needs and personalities; adaptable CIs were also described as being flexible with their daily schedule whenever possible to allow feedback and discussion sessions with students.

In the post-placement interviews and in their journals, the CIs and PTAs expressed their appreciation for the funding that permitted release time for the pre-placement workshop and time for orientation and evaluation sessions with the students during the 5-week placement.

Many of the participants, both CIs and students, felt that the PT students should have had more clinical experience prior to the shared PT/PTA clinical placement. Their view was that the PT students needed to be more comfortable in the physiotherapist role.

DISCUSSION

The investigators found that participants held very similar and positive hopes for the shared learning experience even prior to the start of the clinical placement. Past research by Norsen et al.⁴ indicated that perhaps the most crucial component to success in a shared undertaking is the perspective of the participants.

As was anticipated with the use of the RPC model, the

students reported that the presence of another student created a greater sense of comfort than they had previously experienced on clinical placements, which made them feel included as team members very quickly.

All participants in the 5-week shared placement reported significant benefits for the PT and PTA students. Participants noted an improvement in communication skills, increased confidence in assigning tasks, and more effective intradisciplinary consultation, which students attributed to an improved knowledge of educational background and a better understanding of roles.

The most positive learning experiences were linked with CIs whom students perceived as flexible and supportive. Very similar points were made in research on 2:1 clinical training.¹³ These findings are also supported by Ladyshevsky.⁷ In Ladyshevsky's study, the more the CI encouraged students' direct involvement in patient care as team members, with the CI taking more of a consulting role, the more positively the shared learning experience was perceived by all participants. This finding is consistent with evidence from research in practical education which indicates that a teacher cannot do the learning for a student but can only support and encourage a learner.¹¹ The actions of the adaptable CIs created the most supportive and positive learning environments for students, which is particularly important in a professional setting.¹⁰

The ability to provide funding to the health care sites for supplementary time for CIs and PTAs appears to have been an essential element of the shared model's success. Other studies have reported similar findings.^{13,5}

Another finding of this study is that the nature of the service or practice area does not seem to have influenced the participants' perception of the experience. Furthermore, a higher-than-expected caseload did not have a negative influence; rather, lower-than-normal patient caseloads and less busy schedules resulted in less positive outcomes.

An unexpected benefit reported by participants was the value of learning through the interview process and by writing in their journals. This finding is consistent with those of past research,⁵ since the reflective journals kept by participants were deemed useful both by participants and by researchers in understanding the shared placement experience. Including the journals in the study allowed for a greater breadth of understanding through triangulation of placement events, which proved a valuable and complementary addition to the researchers' overall understanding of the participants' learning process.^{14,11}

LIMITATIONS

The characteristics of the participants likely affected the success of the project. The participants all had very positive attitudes going into the shared placement ex-

perience and enthusiastically supported the project. Significant repetition of perceptions and impressions noted in the qualitative data gave the impression that saturation was reached, but it is still necessary to test the approach in other settings, with larger numbers of participants, before stronger conclusions can be drawn regarding the value of this approach to PT/PTA students' clinical education.

CONCLUSION

The shared model of learning in clinical placements gave the PT and PTA students involved in this study an effective means to improve competencies in collaborative practice, such as communication, consultation, and assignments of tasks. The results of the qualitative data analysis indicated that the students, CIs, and PTAs valued the experience. The focus of the study was on implementing and evaluating a specific shared (2:1) clinical education model of teaching and on discovering the perceived effects of the model for PT and PTA students.

The participants were very open to disclosing their views during the post-placement interviews and shared their advice on improvements for future implementation of similar models of shared placements. Many of the participants, both CIs and students, felt that the students should be more senior and have more clinical experience prior to beginning the shared PT/PTA clinical placement. Furthermore, the CIs and PTAs expressed an interest in receiving more specific yet modifiable guidelines regarding RPC, and particularly working with PT/PTA pairs, during the pre-placement workshop. The importance of providing students with a balance of independent and interdependent activities was also highlighted. It was apparent through the interviews and journals that the participants were giving their advice on the general assumption that the shared placement project should be repeated, and that it was an overall positive experience. The consensus of participants was that combining PT and PTA students on clinical placements resulted in improvements to students' skills in communication, consultation, and assignment of tasks.

KEY MESSAGES

What Is Already Known on This Subject

PTs and PTAs are expected to practise collaboratively within the health care system; however, PT and PTA students receive very limited opportunities, or none at all, to interact or work together during their education.

What This Study Adds

A shared model of learning such as the 2:1 model of supervision (2 students to 1 clinical instructor) during

clinical placements can offer PT and PTA students a valuable opportunity to practise together.

REFERENCES

1. Plack M, Williams S, Miller D, Malik F, Sniffen J, McKenna R, et al. Collaboration between physical therapists and physical therapist assistants: fostering the development of the preferred relationship within a classroom setting. *J Phys Ther Educ*. 2006;20:3–13.
2. Murphy W. *Healing the generations: a history of physical therapy and the American Physical Therapy Association*. Alexandria, VA: American Physical Therapy Association; 1995.
3. Way D, Jones L, Baskerville B, Busing N. Primary health care services provided by nurse practitioners and family physicians in shared practice. *Can Med Assoc J*. 2001;165:1210–4.
4. Norsen L, Opladen J, Quinn, J. Collaborative practice. *Adv Pract Nurs*. 1995;7:43–52.
5. Mostrom E, Ribesky C, Klukos M. Collaboration in clinical education: use of a 2:1 student physical therapist–student physical therapist assistant model. *Phys Ther Case Rep*. 1999;2:45–57.
6. Freeth D, Hammick M, Koppel I, Reeves S, Barr H. *The Interprofessional Education Joint Evaluation Team report*. London: Higher Education Academy; 2002.
7. Ladyshevsky R. Clinical teaching and the 2:1 student-to-clinical instructor ratio. *J Phys Ther Educ*. 1993;7:31–5.
8. Ladyshevsky R. A quasi-experimental study of the differences in performance and clinical reasoning using individual learning versus reciprocal peer coaching. *Phys Theory Pract*. 2001;18:17–31.
9. Gelter H. Why is reflective thinking uncommon? *Ref Pract*. 2003;4:337–44.
10. Schon D. *Educating the reflective practitioner: toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass; 1987.
11. Moon J. *A handbook of reflective and experiential learning: theory and practice*. London: Routledge Falmer; 2004.
12. Fraser F. Doing narrative research: analysing personal stories line by line. *Qual Soc Work*. 2004;3:179–201.
13. Trigg Nemshick M, Shepard K. Physical therapy clinical education in a 2:1 student-instructor education model. *Phys Ther*. 1996;76:968–84.
14. Moran-Ellis J, Alexander V, Cronin A, Dickinson M, Fielding J, Sleney J, et al. Triangulation and integration: processes, claims and implications. *Qual Res*. 2006;6:45–59.

APPENDIX

Pre-placement Interview Guide

1. How would you define intradisciplinary collaboration?
2. What has your experience been with intradisciplinary education?
3. What made you decide to participate in this project?
4. What do you perceive as the advantages and/or learning opportunities of intradisciplinary practice?
5. What do you perceive as the challenges or disadvantages to intradisciplinary collaboration?

Specific questions about individual experience

6. As you prepare to begin a placement using the 2:1 model of intradisciplinary clinical education;

- a. What do you expect or hope for yourself?
- b. What do you expect or hope for the other participants?
7. Can you tell me about any concerns you might have?
8. Please comment on the following statement “Individuals in my profession work well with each other.”
9. Is there anything else you would like to add?

Post-placement Interview Guide

1. During the placement 2 students were supervised by 1 clinical instructor—what did you think of this type of supervision?
2. Were the expectations you expressed before the placement met in terms of what you expected:
 - a. For yourself?
 - b. For the other participants?
3. In what ways were the advantages you had perceived before placement realized or not realized for you?
4. Which of the disadvantages you had perceived arose for you, if any?
5. You have mentioned _____. Is there anything else that emerged or that you learned as a result of your experience?
6. What improvements could be made to bring this placement closer to an “ideal” learning experience?
7. Would you recommend being involved in this project to a student next year?
 - a. Why?