MMSU Science and Technology Journal
Vol. VII No. 1 January-June 2017
ISNN: 2012 0060

APPRAISAL OF CLINICAL EDUCATION SUPERVISION MODELS FOR PHYSICAL THERAPY STUDENTS

Cheryll Didi Nellie N. Obra

ABSTRACT

There is little investigation of the clinical education models being utilized in the affiliation centers in the Philippines. As such, there is a need to appraise the models used and to identify which models are better in providing effective clinical education for undergraduate students. Thus, the study conducted an evaluation of the clinical supervision models used in physical therapy internship in the country.

Using a descriptive approach, qualitative data were gathered through focus groups with ten interns randomly sampled from two universities. Individual interviews were conducted among four clinical instructors and two internship coordinators who were purposively selected as key informants. Moreover, a survey was done among interns, clinical instructors, and internship coordinators were purposively selected. A questionnaire and interview guide designed specifically for this study were content validated by technical experts and pre-tested to a sample of clinicians, academicians, and students. The focus groups and interviews were audiotaped and transcribed verbatim. Transcripts were analyzed using thematic content analysis.

Analysis revealed that four clinical education models based on clinician-to-intern ratio are being practiced in the four selected affiliation centers. The identified advantages and disadvantages are generally consistent with literature as to the strengths and weaknesses of each supervision model. Moreover, there are challenges noted in the implementation of each model. Hence, stakeholders should address these challenges so as to maximize the clinical learning experiences of the interns, lessen the clinical and teaching workload of the clinical instructors, and increase the productivity of the clinical sites.

Key words: clinical education models, internship, physical therapy.

INTRODUCTION

Clinical education is the delivery, assessment, and evaluation of learning experiences in practice settings. It is an essential element of the physical therapist professional entry-level education program. Clinical education sites may include institutional, industrial, occupational, primary health care, and community settings providing all aspects of the patient-management model, such as examination or assessment, evaluation, interventions or treatments including education, prevention, health promotion and wellness programs, diagnosis and prognosis/plan of care (World Confederation for Physical Therapy, 2011).

In the Philippines, the clinical education program is well-planned and organized to ensure that it is on a par with international standards, as institutionalized via the Commission on Higher Education Memorandum Order 23 s. 2007 titled "General Guidelines for the Physical Therapy Internship Program." The program provides

Corresponding Author Current Address: College of Health Sciences, Mariano Marcos State University, City of Batac, Ilocos Norte; email: chednacion@yahoo.com

integration and application of theoretical knowledge towards the development of necessary competencies for the performance of expected professional roles. Further, it focuses on the role of a physical therapist in patient care and administration, and provides experiences in other areas of practice. The program aims to produce professionals who are able to work as team members, and who are ethical, accountable, altruistic, responsible, and compassionate. It involves assigning interns to different affiliation centers that cater to various client populations for a minimum of 1500 hours under the guidance of licensed physical therapists, known as clinical instructors (CIs).

In the professional phase of training, clinical rotation and internship are widely accepted as the experiences that provide real-life or contextual, social, and interactive experiences that would help students translate abstract theories learned in the classroom to clinical practice. Unlike in the classroom, learning in the clinical setting is improvisational or extemporaneous and is driven by the unpredictable real-life problems that may be encountered on a day-to-day basis. Thus, effective teaching in the clinic is indispensable to require distinct and unique instructional strategies different from the approach to didactic teaching or laboratory practicals (Oyeyemi, 2013). Previously, clinical education programs have been anchored on experiences, anecdotes and/or experiences (Chipchase, 2004).

A synthesis of the literature done by Strohschein, Hagler, & May (2002), suggests that the clinical education process in physical therapy currently is characterized by seven primary needs and that 10 models currently exist to guide the general process or to provide specific tools and practices to enhance its effectiveness. Roles and relationships are critical components in successful clinical education. Theory suggests that clinical educators and students should engage in an intentional, structured process of changing roles during the course of the clinical education experience and that nontechnical competencies such as communication, collaboration, and reflection are crucial for effective practice and may be developed in the clinical education setting.

A more recent systematic review on the models of clinical education for physiotherapy students conducted by Lekkas et al. (2007) identified six broad models in relation to clinician-intern ratio. These include the following: a) the *one-educator-to-one-student (1:1) model*, in which one clinical educator supervises one student; b) the *one-educator-to-multiple-students (1:2) model*, in which one clinical educator supervises two or more students; c) the *multiple-educators-to-one-student (2:1) model*, in which a team of clinical educators share responsibility for the supervision of one student; d) the *multiple-educators-to-multiple-students (2:2) model,* in which a team of two or more clinical educators supervises a team of two or more students; e) the *non-discipline-specific-educator model*, in which the respective disciplines do not usually have an existing presence within the training site (supervision in these instances is provided via a mix of non-discipline and discipline specific staff); and f) the *student-as-educator model,* in which the student is either an educator or a mentor to other students and as such, the student is provided with opportunities to acquire teaching support skills.

There is little investigation of the clinical education models being utilized in the affiliation centers in the country. As such, there is a need to appraise the models used and to identify which models are better in providing effective clinical education for undergraduate students. Therefore, this study responded to the following questions:

1. What clinical education supervision models are being used in the affiliation centers?

2. What are the most significant advantages of the clinical education supervision models for the intern and clinical instructor?

3. What are the most significant disadvantages of the clinical education supervision models for the intern and clinical instructor?

METHODOLOGY

Ethical approval was secured from the University of Santo Tomas Ethics Review Committee and written informed consent was obtained from all the participants. A descriptive design was chosen to attain the research objectives. The study utilized multiple data collection methods such as survey, key informant interview (KII), and focus group discussion (FGD) to obtain in-depth evaluation of the clinical education supervision models.

Participants were selected purposively. For the survey, 57 interns, and 22 CIs participated as respondents. For the KIIs, four clinical supervisors and four internship coordinators were involved. For the FGDs, 10 interns were randomly sampled from two selected universities – University of Santo Tomas (UST) and Mariano Marcos State University (MMMH).

A draft open-ended questionnaire was developed based on key themes on clinical supervision found in literature. The questionnaire was content validated by technical experts, and pilot-tested to a sample of five clinicians, five academicians, and five students in Ilocos Norte. Based on their feedback, the questionnaire was revised into semi-structured format. All the interviews were conducted by the researcher. The interviews were audiotaped and transcribed verbatim.

Descriptive statistics such as frequencies, percentages, and means were used to describe the respondents' profile. De-identified data from all focus groups and interviews were combined for thematic content analysis. Categories used to code the data were developed by the researcher using concepts from the literature.

RESULTS AND DISCUSSION

Profile of the Respondents

Of the 57 interns who participated, there were more females (68.42%) than males (31.58%), which concurs with the common observation that physical therapy enrolment has been dominated by females. On the other hand, there was an equal number of females and males among the 22 CIs who participated. Almost all (91%) of the CIs were BSPT graduates while only a few pursued post-baccalaureate degrees. The CIs have a mean age of 26.59 years, and mean working years of 4.52 and 3.56 as clinicians and clinical educators, respectively. These figures indicate that the CIs have not been in the workplace for a long time. Moreover, their mean daily working hours in the clinic was 7.81 while the mean daily hours supervising interns was 7.25. This implies that CIs perform double roles as clinicians and clinical educators on a daily basis. Most of the CIs work an average of five days per week and eight hours per day as mandated by Philippine law (Table 1).

Clinical Supervision Models Used

Four clinical education models in relation to clinician-to-intern ratio were used in the selected affiliation centers: 1) one educator-to-one student (1:1) model at OLLH; 2) one educator-to-multiple students (1:2) model at PCMC; 3) multiple educators-to-one student (2:1) model at PCPI; and 4) multiple educators-to-multiple students (2:2) model at MLSC. Factors cited for the choice of clinical education model were physical restriction on the number of interns, number of trained clinical instructors to facilitate clinical

Table 1. Characteristics of interns and clinical instructors

CHARACTERISTICS	FREQUENCY
Interns (n=57)	
Sex	
Males	
MMSU	5
UST	13
Females	
MMSU	19
UST	20
Clinical Instructors (n=22)	
Sex	
Males	11
Females	11
Educational attainment	
Bachelor of Science in PT (BSPT)	20
Master of Science in PT (MSPT)	1
Master of Arts in Special Education (MASpEd)	1
CI age (in year)	Mean
Moro Lorenzo Sports Clinic (MLSC)	25.20
Our Lady of Lourdes Hospital (OLLH)	25.20
Philippine Cerebral Palsy Inc. (PCPI)	24.80
Philippine Children Medical Center (PCMC)	29.86
Years as PT staff	
MLSC	3.10
OLLH	2.80
PCPI	3.27
PCMC	7.65
Years as CI	
MLSC	2.3
OLLH	2.7
PCPI	2.32
PCMC	5.98
Daily hours working in the clinic	
MLFSI	8
OLLH	8
PCPI	7.2
PCMC	8
Daily hours supervising interns	
MLSC	8
OLLH	8
PCPI	4.4
PCMC	6

education, length of time interns were present, and productivity of the affiliation center.

One educator-to-one student (1:1) model. This is a more traditional model of clinical supervision in which one intern works closely with one CI for the length of the clinical placement. This single CI works face -to-face and instructs an intern in the management of a wide range of health conditions. This traditional apprenticeship 1:1 model continues to be offered by the majority of clinical educators.

According to Lekkas et al. (2007), there was no evidence in the literature that this is the best model for clinical supervision. The authors gave recommendations for the implementation of this model such as early and ongoing communication between the clinical facility and the academic institution, particularly where the host facility is providing the supervisory staff. Moreover, adequate delegation of a clinician's clinical caseload is required at the commencement of the educational period to both work colleagues and the supervised student (Lekkas et al., 2007).

In the present study, it was mentioned by the CIs and internship coordinators that they communicated with each other even before the start of clinical rotation of the interns. Moreover, the communication lines for both parties were open throughout the course of the internship for purposes of monitoring and evaluation.

One educator-to-multiple students (1:2) model. In this model, a number of interns are being supervised by one CI. Previously, O'Connor, Cahill, & McKay, (2012) reported that students expressed a preference for this model in their earlier clinical placements to experience the benefits of peer learning, whereas a 1:1 model was preferred later in placements to demonstrate clinical independence and autonomy as a clinician. Furthermore, Lekkas and colleagues' review in 2007 showed that students were more frequently reported as having preferred this model, compared with educators and administrators.

For the implementation of the 1:2 model, Lekkas et al. (2007) said that organization and pre-placement planning by the placement supervisor and clinical educator is essential, with overarching support from both the academic institution and the host facility. This model requires facilitation of peer learning strategies by the placement supervisor and clinical educator in order to augment students' collaborative learning experience. Furthermore, Lekkas et al. recommended that clinical educators share a majority of their caseload among the students and ensure that equal time is afforded to each student. Finally, care should be taken to provide both individual and collaborative clinical experiences within the placement.

The interns noted that caseloads of their CIs were shared among the interns they supervised. The clinical instructors admitted that such scheme was followed to allow them to supervise the interns assigned to them. However, the interns observed that some clinical supervisors did not spend equal time to each intern.

Multiple educators-to-one student (2:1) model. In this model, one intern is supervised by multiple CIs either on the same site or across organizations. The CI may come from the same professional background as the intern. This is also known as shared-responsibility (SR) model. This model was the most commonly used method of delivering clinical education to Australian undergraduate physiotherapy students in 2003 (**Stiller, Lynch, Phillips, & Lambert,** 2004). Despite its widespread use, it was the least preferred among physiotherapists involved in clinical education.

For the implementation of the 2:1 model, Lekkas et al. (2007) recommended the conduct of collaborative preparatory discussion of the organization and structure of the clinical education experience by all members of the team to delineate roles, tasks, and the manner in which normal load will be distributed. They also recommended team-teaching of content to reduce overlap and duplication, and agreement on methods of communication, both informal and formal, to incorporate the views of all staff into student feedback and assessment processes.

The interns in the present study mentioned that the CIs did not always discuss among themselves the clinical and academic activities to be conducted. They said that there were times that a single intern received opposite instructions from his CIs.

Multiple educators-to-multiple students (2:2) model. In the multiple mentoring model, a team of two or more interns is supervised by a team of two or more CIs. Although there may be one overall coordinating supervisor, all educators share responsibility for student education. Students have individual caseloads, but may also share some aspects of each other's caseloads and are encouraged to share knowledge and to problem solve together (Nolinske, 1995 as cited in Copley & Nelson, 2012). This model promotes collegiality as students use one another as resources. Students also have the opportunity to observe different educators approaching similar situations. In turn, the clinical instructors have the opportunity to work with students according to their strengths and interests. Multiple mentoring allows a clinical placement site to accept more students at one time, while minimizing stress on any one clinical educator (Nolinske, 1995).

In the implementation of the 2:2 model, Lekkas et al. (2007) recommended collaboration among all stakeholders to establish clear expectations and objectives for the educational experience, as well as a thorough preparation of the fieldwork setting. Furthermore, stakeholders and users must be educated in the processes of group dynamics and facilitation.

It was reported by the interns and internship coordinators that at times the learning activities were not well-planned by the CIs. Nonetheless, the interns stated that they benefited from the interactions they have with their co-interns, especially during patient management.

Advantages and Disadvantages of the Clinical Supervision Models

Perceived major advantages and disadvantages of the models of clinical supervision are summarized in Table 2 based on the collective responses of the interns, CIs, and internship coordinators.

One educator-to-one student (1:1) model. Generally, the CIs felt that the 1:1 model was easier to organize, and that it was easier to supervise only one intern. Thus, the 1:1 model was deemed less stressful. This corroborates findings by Sevenhuysen, et al. (2014) in which clinical educators reported that they were more satisfied with the balance of their workload in the traditional model.

The interns also found it easier to adjust and adapt in a 1:1 model. Likewise, there was less confusion and less error.

> *"A CI is more focused on his/her supervision of an intern during assessment and treatment and manages to give immediate feedback to correct wrong techniques done and prevent these from repeating."*

Table 2. Advantages and disadvantages of clinical education models used in the affiliation centers as experienced by the participants

CLINICAL SUPERVISION MODEL	ADVANTAGE TO INTERNS	DISADVANTAGE TO INTERNS	ADVANTAGE TO CLINICAL INSTRUCTORS	DISADVANTAGE TO CLINICAL INSTRUCTORS
One educator-to-one student (1:1) Model	Clearer communication and interaction, thus, lessening confusion	Limited learning	More observation and interaction time with an intern	Less manpower to help during treatment
One educator-to-multiple students (1:2) Model	Better camaraderie and more collaboration between interns	CIs tend to compare interns they supervise	Easier to facilitate learning in a group, can teach more interns	Time-consuming and tiresome at times
Multiple educators-to-one student (2:1) Model	More interactions with different CIs result in more learning	Different expectations from different Cis	Facilitates discussion among the CIs in teaching and evaluating intern	Inter-rater reliability in assessing intern
Multiple educators-to-multiple students (2:2) Model	More exposed to different strategies and schools of thought since each CI has his own style of patient management	Interns are subject to biased opinions from different CIs	CI can be more flexible in his / her teaching style since each intern could be more perceptive to specific learning approach	CI could have difficulty teaching different interns at the same time

"What an intern learns from his/her designated CI will definitely be the one to be applied in the clinic, thus, less confusion and less error."

However, the interns perceived that the 1:1 model resulted in limited learning. This is supported by Health Education and Training Institute (HETI) that students may be dependent on one clinical educator for their learning experience. Moreover, little (if any) opportunity for peer and collaborative learning between students occur (HETI, 2016). As an intern said:

"There is limited knowledge because what the CI knows will be the only thing shared and learned".

One educator-to-multiple students (1:2) model. The interns valued the relationship, interaction, and sharing of knowledge with co-interns. They perceived to have learned more due to the benefit of peer discussion. These perceptions are consistent with literature that 1:2 model has created a social network for interns (HETI, 2016) and developed effective teamwork skills (Copley & Nelson 2012). As noted by an intern:

"An intern can focus on a specific learning from a single CI and at the same time receive learning inputs from buddy-

interns, as well as, relying on each other during patient management."

However, it was reported by the interns that this model worked poorly if peers did not bring much to the team. Compatibility of interns in the group appears to be a challenge. This is supported by O'Connor et al. (2012) who found that the relationship between the pair of students appeared more critical to the success or failure of 1:2 placement than the relationship between the pair and the clinical educator. As found in his study, students who felt that they were stronger than their peer reported that the 1:2 model could compromise their performance in terms of demonstrating knowledge and skills.

Moreover, the interns reported that the CIs' supervision was limited and individualized feedback was inadequate. Also, CIs tended to compare interns they supervised, resulting in dissatisfaction. This is supported by Sevenhuysen et al. (2014) that students reported increased stress and reduced satisfaction with the peer-assisted learning model.

"CIs tend to compare interns they supervise. Also, feedback time is limited and sometimes divided among interns."

On the other hand, the CIs perceived the model as time-consuming and tiresome when supervising more than one interns. Similarly, physiotherapy clinical educators have previously reported that time spent directly teaching students is burdensome (Bearman et al., 2012) and that having students in the workplace takes away time from non-clinical tasks such as administration and quality assurance activities (Sevenhuysen & Haines, 2011). Moreover, therapists have expressed concern that working with more than one student at a time would drastically increase their workload and that they would have difficulty attending to the learning needs of more than one student at a time (O'Connor et al., 2012).

Multiple educators-to-one student (2:1) model. The CIs found this model as less stressful as there are other clinicians supervising the learning process. As there is a shared workload for the educators, they can divide their time between supervising students, treating patients, and overseeing their caseloads. Advantages of the model include the diminished responsibility for the sole provision of clinical education by any one educator and increased placement provision capacity (Lekkas et al., 2007), as well as increased opportunities to include more staff (HETI, 2016).

In this model, however, the CIs had different observations and evaluations of the clinical performance of the same intern they handled, thus, affecting inter-rater reliability. One CI noted:

"Evaluations are not the same maybe because an intern does not consistently manifest the proper skills and professional behaviors inside the clinic, thus, compromising CIs inter-rater reliability."

According to the Health Education and Training Institute (2016), there is a need for increased collaboration between educators for purposes of assessment and planning.

On the other hand, the interns appreciated the exposure to multiple educators and styles of supervision. However, they are sometimes confused following different instructions given by the multiple educators, especially on patient documentation.

"There are more interactions with different CIs, thus, more information and

inputs translating to more direct learning for the intern. It provides more avenues for the clarification of theories learned."

"Intern needs to learn different documentation styles and treatment techniques to suit each CI's expectation."

Multiple educators-to-multiple students (2:2) model. All stakeholders agreed that with the 2:2 model, an intern can learn much from others within a short period of time. An intern learns more information and techniques from each supervising CI, as well as from other interns of different schools. These are evident in the following responses:

"Interns have more experience, more learning, and more inputs from different CIs that could be helpful later on in their professional practice. However, interns are sometimes confused with the different techniques taught by different CIs. "

"More interactions with interns with different perspectives, thus, you can compare your learning with others and can motivate you to further learn."

In order to assist the interns to develop their own unique approach, they should be exposed to a greater number of practice areas (Farrow et al., 2000 as cited in Copley & Nelson, 2012) and experience multiple approaches to practice (Callagham et al., 2009).

It has been reported that in the 2:2 model, interns were subject to biased opinions from CIs supervising them. In a previous study, Copley and Nelson (2012) found that interns had difficulty managing the expectations of multiple supervisors. Lekkas et al. (2007) said that the use of multiple educators/supervisors fosters fragmentation among students.

On the other hand, this model was perceived to be advantageous to CIs in terms of patient management as they can tap more interns to help them oversee their caseloads. However, this can be bothersome to some of the interns as "*CIs would vie for interns' help during patient treatments".* The CIs expressed that this 2:2 model entails extra time and effort for the CIs to work together, and there is more difficulty supervising and teaching many interns at the same time.

Likewise, an intern and a clinical instructor made suggestions that interdisciplinary model should be considered as the model to be followed by the affiliation centers. They perceived that interactions with other members of the multidisciplinary team would have a significant impact on the clinical learning experience of interns:

"Interns can benefit from case conferences where interns formulate treatment management, together with occupational therapists and other members of the rehabilitation team."

"It is a beautiful thing as you observe what others do and it gives you another perspective of the patient, thus, you modify your management for better patient outcome. It is a good experience collaborating with others especially so that the rehabilitation is interdisciplinary in approach."

The present findings on the advantages and disadvantages of the models of clinical education are congruent with the systematic review conducted by Lekkas and

colleagues (2007). Many participants noted that that the best model depends on factors such as the level of the students, the size of the health unit, and the number of students being educated, similar to findings in the study of Stiller et al. (2004).

However, the present study may be limited as not all the interns were subjected to all of the identified clinical supervision models. Moreover, the CIs' experience with the clinical supervision model employed in their respective clinical sites, may have affected the findings to some extent.

CONCLUSIONS

Different clinical education supervision models based on clinician-to-intern ratio are being practiced in the four affiliation centers selected for this study. The identified advantages and disadvantages are generally consistent with previous studies in terms of the strengths and weaknesses of each model. Consideration should be taken to mitigate the challenges and maximize the opportunities in the implementation of these models. This is to provide more consistent supervision and assessment of interns, thus, enhancing their clinical education experiences.

RECOMMENDATIONS

Clinical sites should revisit and revise their policies particularly on the supervision of physical therapy interns. There is a need for clinical supervisors and instructors to identify significant implementation features of the model followed in their affiliation centers. Moreover, efforts should be exerted to maximize the strengths and minimize the weaknesses attributed to the model employed in the centers.. On the other hand, academic sites should plan carefully the clinical rotation of each intern. Internship coordinators should attempt to pre-match the intern's level of practical experience with the degree of clinical supervision in the affiliation center. Further, more research is needed to evaluate the clinical education process and its outcomes.

LITERATURE CITED

Bearman, M., Molloy, E., Aljawi, R., & Keating, J. (2012). Is there a Plan B?: Clinical educators supporting underperforming students in practice settings. *Teach High Educ*, http://dx.doi.org/10.1080/13562517.752732.

Chipchase, L., Dalton, M., Williams, M., & Scutter, S. (2004). Is education immune from evidence-based scrutiny? *Australian Journal of Physiotherapy,* 50, 133-135.

Commission on Higher Education. (2007). CHED Memorandum Order No. 23 series of 2007. General guidelines for the physical therapy and occupational therapy internship program.

Copley, J., & Nelson, A. (2012). Practice educator perspectives of multiple mentoring in diverse clinical settings. *British Journal of Occupational Therapy,* 75(10), 456-462.

Health Education and Training Institute (2016, May). Placement Models. New South Wales Government. Retrieved from *http://www.heti.nsw.gov.au/Global/SPE/ICTN/LifeStart*

Lekkas, P., Larsen, T., Kumar, S., Grimmer, K., Nyland, L., Chipchase, L., Jull, G., Buttrum, P., Carr. L., & Finch, J. (2007). No model of clinical education for physiotherapy students is superior to another: A systematic review. *Australian Journal of Physiotherapy*, 53(1), 19-28.

Nolinske, T. (1995). Multiple mentoring relationships facilitate learning during fieldwork. *American Journal of Occupational Therapy,* 49(1), 39-43.

O'Connor, A., Cahill, M., & McKay, E.A. (2012). Revisiting 1:1 and 2:1 clinical placement models: Student and clinical educator perspectives. *Australian Occupational Therapy Journal,* 59, 276-283.

Oyeyemi, A. (2013). Perspectives on clinical education: How physiotherapy students learn in the clinic. *African Journal of Physiotherapy and Rehabilitation Sciences,* 5(1), 1-7. http://dx.doi.org/10.4314/ajprs.v5i5.1

Stiller, K., Lynch, E., Phillips, A. C., & Lambert, P. (2004). Clinical education of physiotherapy students in Australia: Perceptions of current models. *Australian Journal of Physiotherapy,* 50, 243-247.

Sevenhuysen, S., Skinner, E.H., Farlie, M.K., Raitman, L., Nickson, W., Maloney, S., Molly, E., & Haines, T.P. (2014). Educators and students prefer traditional clinical education to a peer-assisted learning model, despite similar student performance outcomes: A randomized trial. *Journal of Physiotherapy*, 60, 209-216.

Strohschein, J., Hagler, P., May, L. (2002). Assessing the need for change in clinical education practices. *Physical Therapy*, 82(2), 160-172.

World Confederation for Physical Therapy. (2011). WCPT guideline for the clinical education component of physical therapist professional entry level education. Retrieved from http://www.wcpt.org/guidelines/clinical-education