
Evaluating Patients' Attitudes Towards Being Assessed and Treated by Undergraduate Physiotherapy Students in a Rehabilitation Centre

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ABSTRACT

Purpose. Clinical placements are an important component in the education of students who are training in the healthcare professions. The degree of patient satisfaction with being assessed and treated by healthcare students is also important as part of the overall evaluation of healthcare and student outcomes. The purpose of this study was to evaluate inpatients' attitudes towards being assessed and treated by undergraduate physiotherapy students at one rehabilitation centre in Australia. **Method.** Sixty-one of 69 eligible inpatients completed a purpose-designed survey. Analyses were descriptive in nature. **Results.** Overall, high levels of satisfaction were demonstrated, including the process of consent, the amount of supervision provided to the students, the standard of care, and personal feelings about being treated by physiotherapy students. **Conclusions.** These findings suggest that the standard of care provided by undergraduate physiotherapy students to inpatients at the rehabilitation centre, as rated by patients, is high. This research was straightforward to conduct and has identified areas where the service can be further improved.

INTRODUCTION

Clinical placements are an integral component of the education of students who are training to become healthcare professionals.¹⁻⁴ The timing, duration, and content of these clinical placements vary between faculties and educational institutions, but usually includes students assessing and treating a variety of patients in acute, rehabilitation, and community healthcare settings. It is often difficult to find sufficient and appropriate clinical placements for students, which has led to a growth in simulation-based education.^{1-3,5} Nevertheless, face-to-face interaction between healthcare students and patients is still considered an essential part of training. An important consideration in this interaction is the patients' attitudes towards being assessed and treated by healthcare students.

Numerous studies were found that evaluated patients' attitudes towards assessments and treatments provided by medical students.⁶⁻¹³ Overall, these studies found that patients' attitudes toward the involvement of medical students in their care were positive. For example, Gandhi et al, in a study involving 72 patients who participated in a final medical undergraduate clinical examination, reported that 82% found the experience positive and 90% would encourage others to participate in the future.⁹ They found that the majority of patients who agreed to participate in these examinations did so because they wanted to help or felt obliged to make contributions to medical education.⁹ Overall, negative comments were uncommon in these studies; however, concerns were raised about privacy and confidentiality, standard of care, lack of information regarding the extent of student

involvement, embarrassment, and fatigue from overly long examinations.^{9,10,12} Mol et al, in a literature review of 16 studies that examined patients' satisfaction regarding the presence/participation of a medical student during a consultation in a general practice setting, found that the benefits reported by patients included a longer consultation time, more thorough physical examination, and better patient education.¹¹ They also noted that patients frequently felt good about contributing to student education.¹¹ We were unable to identify any published studies that evaluated patients' attitudes towards assessments and treatments provided by physiotherapy students.

Patient satisfaction is a vital component in the evaluation of healthcare outcomes, particularly in the area of rehabilitation where it can influence the success of the rehabilitation.¹⁴⁻²² A recent study we conducted at our rehabilitation centre evaluated patients' satisfaction with the physiotherapy service.²³ High degrees of satisfaction were found with the overall standard of the physiotherapy service, the interpersonal skills of the physiotherapy staff, and the facility itself. However, no attempt was made in this study to evaluate the level of satisfaction of participants who had received services from physiotherapy students as distinct from qualified physiotherapists, and the number of participants in this study who had received treatment from physiotherapy students was small. We believe this is an important oversight given that physiotherapy students contribute substantially to patient management in our rehabilitation centre. Furthermore, there are issues pertaining to patient satisfaction that are unique to the patient-student relationship (e.g., consent, level of supervision). Therefore, the aim of this study was to evaluate patients' attitudes towards being assessed and treated by undergraduate physiotherapy students at a rehabilitation centre.

METHODS

Study Design

A prospective study was conducted. Approval from the Royal Adelaide Hospital Research Ethics Committee was obtained.

Setting and Timelines

The study was conducted at Hampstead Rehabilitation Centre (HRC) in South Australia over a 6-month data collection period (May 2011 – October 2011). HRC is a 128-bed campus of the Royal Adelaide Hospital where patients are admitted for clinical rehabilitation services following traumatic brain injury, stroke, other neurological or medical disorders, spinal cord injury, orthopaedic conditions, or amputation.

Participants

All inpatients who received assessment and treatment from an undergraduate physiotherapy student were eligible for inclusion. Patients had been deemed appropriate for student management if their condition was relatively straightforward without major concurrent morbidities, they were able to follow basic instructions, and they did not have major behavioural problems that would interfere with their ability to cooperate with treatment. Patients were excluded from the study if they were unwilling to participate, had already participated in the study, or were unable to complete the survey because of a cognitive impairment or an inability to understand written English (whether a result of English not being their first language or dysphasia). Patients receiving their rehabilitation in the Brain Injury Rehabilitation Unit at HRC were excluded as the physiotherapy service provided to these patients is separate from that provided elsewhere at HRC.

Basic descriptive information for each participant was recorded in order to summarise the characteristics of the study sample.

Intervention

The multidisciplinary rehabilitation provided to patients during the study period did not change from that routinely provided. From a physiotherapy perspective, this consisted of an initial full assessment by one of the qualified physiotherapists working at HRC. At this time, patients were screened by the qualified physiotherapist regarding their appropriateness for ongoing assessment and treatment by undergraduate physiotherapy students. Verbal consent to be assessed and treated by undergraduate physiotherapy students was obtained from patients by the physiotherapist managing their care or the clinical educator (MS) who was responsible for supervising the physiotherapy students. In keeping with the service provided by qualified physiotherapists, the physiotherapy student intervention consisted of an initial assessment followed by individual one-on-one sessions for 30 to 60 minutes daily, five days a week. The vast majority of assessments and treatments undertaken by the physiotherapy students were provided in one location and were, at all times, supervised by the clinical educator. The ratio of clinical educator to students was 1:4 for third year students and 1:1 for fourth year students. The clinical educator's role was to directly supervise students, teach clinical skills, assist with patient management, and ensure safe and effective physiotherapy interventions were provided. Student supervision was the clinical educator's sole role when supervising third year students, whereas a clinical load was also carried whilst supervising fourth year students. All students were enrolled in a Bachelor of Physiotherapy degree at the University of South Australia.

Measurements

As we were unable to identify any published survey that was suitable for direct use or modification, a purpose-designed survey was developed to measure satisfaction with the services provided by the undergraduate physiotherapy students. Various relevant themes and issues from previous studies, and from an unpublished study conducted at HRC in 2006 that evaluated patient satisfaction with physiotherapy students, were incorporated into the survey. Some themes were deliberately excluded as they were not relevant to the inpatient population (e.g. billing, parking). The survey was designed by the investigators based on their clinical and research experience and relevant literature. Drafts were cycled between investigators and appropriate senior staff at HRC to fine-tune content and improve clarity. The final draft was pilot tested on two HRC patients and their feedback incorporated to produce the final version of the survey. The final survey consisted of basic descriptive data, 25 questions requiring broad categorical responses, and four open questions. The questions were grouped into the following headings: consent, supervision, standard of care, personal feelings, and general comments.

Participants were recruited into the study during the last week of their inpatient admission or the last week of the students' treatment period. The clinical educator screened each patient receiving treatment from a physiotherapy student regarding their eligibility to participate in the study. Any decision to exclude a patient was reviewed by another study investigator to minimise the potential for selection bias. Demographic data for each eligible patient were entered onto a survey form by the clinical educator. The surveys were then passed on to a study investigator (KR) who works in a non-clinical role that is independent from the Physiotherapy Department. This investigator approached eligible patients regarding participation and provided them with an information sheet and their copy of the survey. If patients required assistance to complete the survey, they were instructed to seek help from this investigator or from family/friends. If eligible participants were inadvertently "missed" during their inpatient stay, a study investigator (KR) contacted them via telephone and administered the survey over the telephone. Return of the completed survey, or verbal consent from those contacted via the telephone, was taken to indicate consent to participate. Patients who did not wish to participate were asked to return the survey in its blank format. An internal HRC envelope was provided for return of the survey and addressed to a study investigator (KR).

In addition, a separate short survey was developed for those patients who were unwilling to be seen by physiotherapy students in order to ascertain their main reasons for refusing consent. This survey consisted of basic demographic data and five questions requiring broad categorical responses.

Sample Size

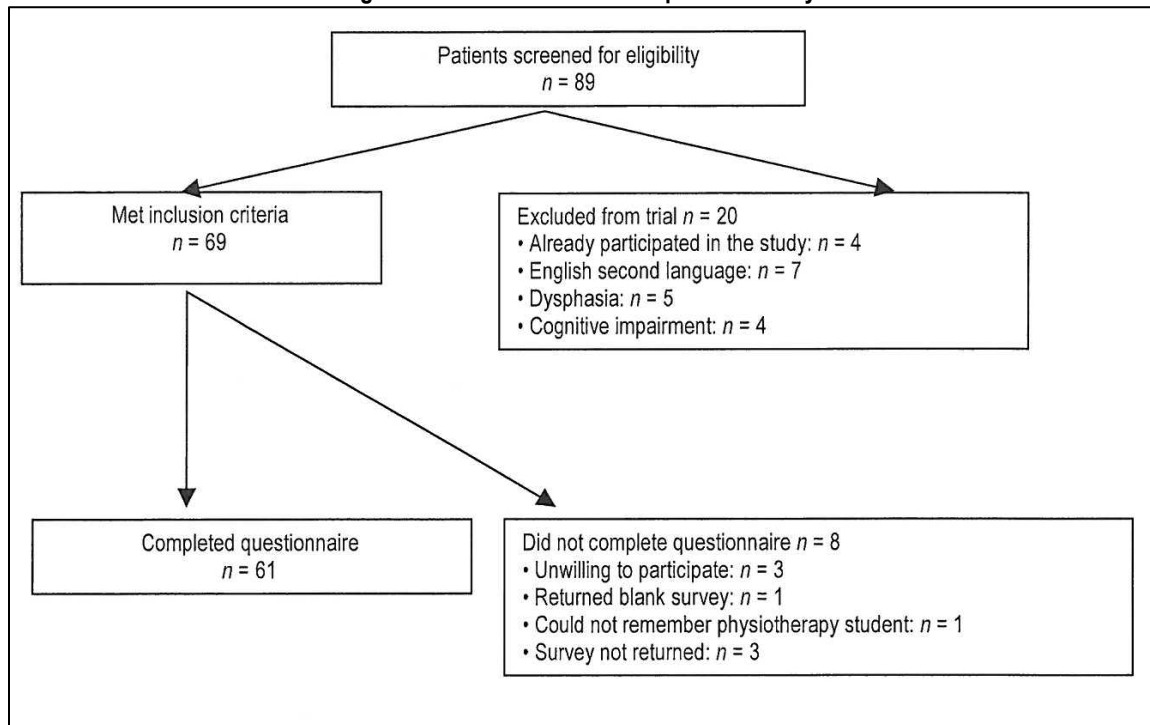
Data for the 12 month period of 2010 revealed that 170 patients had been seen by undergraduate physiotherapy students at HRC. A sample size of 50 patients was considered sufficient to provide a representative sample with an adequate size for analyses. Hence, a 6-month data collection period was planned, with an option to extend this if recruitment was slower than anticipated.

Data Analysis

Data were entered onto an Excel spreadsheet, imported into SPSS (Graduate Pack 11.0 for Windows) and analysed descriptively, with the frequency of responses to each item in the survey examined. The themes from responses to the open questions were identified by two of the investigators (KR, KS), working together, who were independent from the physiotherapy student program. These themes were agreed upon by a process of consensus.

FINDINGS

During the data collection period, 89 patients received assessment and treatment from undergraduate physiotherapy students as part of their inpatient rehabilitation at HRC (see Figure 1). Inclusion criteria were met by 69 persons and 61 (88%) returned a completed survey. Table 1 provides a summary of the descriptive data for the study sample: the most common age group was 60-79 years and the most frequent primary diagnosis was an orthopaedic condition. Virtually all surveys (n = 59; 97%) were administered in person. The mean (standard deviation; range) duration of treatment by students at the time of completion of the survey was 2.7 (1.8; 1.0-8.5) weeks.

Figure 1. Recruitment of Participants to Study.**Table 1. Characteristics of the 61 Participants**

Characteristic	Number (%)
Age *	
<20 years	0 (0)
20 - 39 years	3 (5)
40 - 59 years	15 (25)
60 - 79 years	33 (54)
80+ years	8 (13)
Sex	
Female	33 (54)
Male	28 (46)
Primary diagnosis	
Orthopaedic condition	21 (34)
Stroke	15 (25)
General medical condition	10 (16)
Spinal cord injury	4 (7)
Amputation	2 (3)
Other	9 (15)
Duration of treatment by students	
1 - 2 weeks	36 (59)
>2 - ≤4 weeks	14 (23)
>4 weeks	11 (18)
Student's year of training	
Third	52 (85)
Fourth	9 (15)
Mode of survey administration	
In person	59 (97)
By telephone	2 (3)

* Some participants did not respond to this question

All 61 participants who returned a completed survey reported that they were able to remember the physiotherapy student who had treated them. For the majority of participants, the current episode was their first experience with being assessed/treated by a physiotherapy student ($n = 50$; 82%). The majority reported that they had also been assessed and/or treated by a qualified physiotherapist ($n = 57$; 93%).

Consent and Supervision

Table 2 shows the frequency of responses for the survey questions that related to consent and the level of supervision provided by the clinical educator. Additionally, participants were asked to indicate, from a list of options, the reasons they had agreed to be seen by a physiotherapy student. The following frequency of responses was recorded: 46 (75%) participants "wanted to help in the student's education," 18 (30%) "hoped [they] would receive more treatment from a physiotherapy student," 11 (18%) "felt obliged to agree as a public hospital patient," 5 (8%) "other reasons," 3 (5%) "did not dare to refuse when asked," and 1 (2%) "unsure." Five (8%) participants did not answer this question. Of the five participants who indicated "other reasons," two did not specify these, one was "willing to give anyone a go," one was "happy to go with request," and one stated "he was a good physio." Some participants gave more than one response to this question hence the number of responses exceeds the sample size of 61.

Table 2. Frequency (%) of Responses Related to Consent and Supervision

Item	Yes	No	Unsure
Did a qualified physiotherapist or the student's supervisor ask for your consent to have a student assess and treat you? *	53 (87)	2 (3)	4 (7)
Did the consent process provide you with enough information about what being seen by a physiotherapy student would involve? *	54 (89)	3 (5)	3 (5)
Did you feel you could have discontinued your treatment session with the physiotherapy student if you were not satisfied with the treatment they provided? *	52 (85)	5 (8)	2 (3)
Did the student's supervisor introduce herself to you? *	52 (85)	0 (0)	8 (13)
Do you think the level of supervision that the student received from their supervisor was sufficient? +	59 (97)	1 (2)	2 (3)

* Some participants did not respond to this question

+ One participant gave more than one response to this question

Standard of Care, Personal Feelings and General Comments

The frequency of responses that related to the standard of care provided by the undergraduate physiotherapy students is provided in Table 3, while Table 4 provides data pertaining to patients' personal feelings and general comments about the assessment/treatment they received from physiotherapy students.

Table 3. Frequency (%) of Responses Related to the Standard of Care

Item	Yes	No	Unsure
Do you think you received a high standard of care from the physiotherapy student?	61 (100)	0 (0)	0 (0)
Do you think you received more attention and better care from a physiotherapy student than you would have received from a qualified physiotherapist?	16 (26)	33 (54)	12 (20)
Did you find the treatment sessions from the physiotherapy student too long? +	4 (7)	57 (93)	1 (2)
Did the physiotherapy student explain your physiotherapy treatment in a way you could understand?	59 (97)	2 (3)	0 (0)
Did the physiotherapy student push you hard enough? *	48 (79)	6 (10)	2 (3)
Did the physiotherapy student help you identify goals that would help you get home? *	56 (92)	0 (0)	1 (2)
Was the area where you received physiotherapy neat and clean? *	58 (95)	0 (0)	0 (0)

* Some participants did not respond to this question

+ One participant gave more than one response to this question

Table 4. Frequency (%) of Responses Related to Personal Feelings and General Comments

Item	Yes	No	Unsure
Personal feelings			
Did being treated by a physiotherapy student make you feel embarrassed? *	0 (0)	60 (98)	0 (0)
Was the physiotherapy student kind, caring and courteous? *	59 (97)	1 (2)	0 (0)
Were your privacy, dignity and comfort considered by the physiotherapy student? *	57 (93)	3 (5)	0 (0)
Did being seen by a physiotherapy student make you feel like a guinea pig? **+	1 (2)	60 (98)	0 (0)
Do you think that the physiotherapy student was too young to really understand all that was happening to you as a result of your condition? *	2 (3)	56 (92)	2 (3)
Were there any cultural or gender issues in your relationship with the physiotherapy student? *	2 (3)	58 (95)	0 (0)
General comments			
Were you confident that your medical/personal details and information you shared with the physiotherapy student would be kept private and confidential? *	58 (95)	0 (0)	0 (0)
Were you confused about who to report to about your condition (i.e., the qualified physiotherapist or the physiotherapy student)? *	4 (7)	52 (85)	3 (5)
Based on your experience, would you agree to being seen by physiotherapy students in the future? *	58 (95)	1 (2)	0 (0)

* Some participants did not respond to this question

+ One participant gave more than one response to this question

Open Questions

The first open question asked participants what they liked about the service they received from the physiotherapy students. Responses were provided by 51 (85%) participants. The most frequent themes identified in these responses were complimentary remarks about the personal characteristics of the physiotherapy students (n = 29; 48%) and general complimentary remarks about the service they provided (n = 28; 46%). Typical examples of these remarks are as follows:

- Never pushed too hard, tried to help all the time, listened to me, perfect for me.
- Everything - very kind, friendly and polite.
- Understood when I was able and willing to go harder with an exercise program, was motivating, easy to get along with, and encouraging with progress. Kept interesting with a variety and good knowledge of exercises.
- Pleasing to be treated with courtesy and at the same time pushed to improve.
- Kind, understanding, honest.

Four (7%) participants responded to the second open question which asked participants to report anything they didn't like about the service they received from the physiotherapy students. Two participants indicated that they thought the treatments should have been longer, one participant indicated that he had a hydrotherapy session cancelled because of lack of staffing, and one participant wrote "caution/adaptability" (we are unsure what was meant by this response).

The third open question asked participants whether they had any suggestions on how the service to patients from the physiotherapy students could be improved. Seven (11%) participants gave suggestions and the following themes were identified: the need for weekend services (n = 2), the need for more and better equipment for patient use (n = 2), allowing more time (n = 1), better planning of treatment sessions so they don't clash with other commitments (n = 1) and one participant noted "when hanging on to you don't pull too hard on the left side."

The final open question asked participants if there were any other comments they would like to make about being seen by a physiotherapy student at HRC. Twenty-five (41%) participants responded to this question, with 24 of these responses being positive comments about the service they had received from the physiotherapy students. The final participant indicated that she could have had more treatment and weekend treatment. Typical examples of the positive comments provided in response to this question are as follows:

- Many thanks for such wonderful and caring service.
- Loved the treatment, sad the students had to go.
- Helped you a lot. Good learning experience. Can't praise them highly enough.

Patients Who Refused Consent to Being Seen by Physiotherapy Students

Three additional patients who were unwilling to be seen by physiotherapy students completed the separate survey (5 questions) designed to ascertain their reasons for refusing consent. All three patients were female, two were aged over 80 years and one was 60 to 70 years old, and all had orthopaedic conditions. The first survey item asked whether or not the patient could recall refusing consent to being seen by a physiotherapy student, with all three patients indicating they recalled refusing consent. The second survey item asked whether they had been treated by physiotherapy students in the past, with one of the three patients answering "yes" and the other two "no." The third survey item asked patients whether they had been given enough information about what being seen by a physiotherapy student would involve, with all three patients answering "yes." The fourth survey item sought their reasons for refusing to be treated by a physiotherapy student, with the responses as follows: one patient wanted to keep seeing her qualified physiotherapist and was in a lot of pain; one patient was in a lot of pain during treatment with the qualified physiotherapist, felt that was enough and did not want to commit to more; and the final patient was concerned about the privacy and confidentiality of her medical and personal details, did not want to be a guinea pig, and wanted to keep seeing her qualified physiotherapist. Finally, in response to the fifth survey item which asked patients whether they would agree to being seen by a physiotherapy student in the future, two of the three patients said they might agree to being seen by a physiotherapy student in the future, with the remaining patient being unsure.

DISCUSSION

This study aimed to measure inpatients' attitudes towards being assessed and treated by undergraduate physiotherapy students at a rehabilitation centre. To our knowledge, this is the first study that has measured patient satisfaction with the services provided by physiotherapy students in a rehabilitation setting. Overall, for inpatients with a variety of primary diagnoses, an extremely high level of satisfaction was demonstrated regarding the services provided by undergraduate physiotherapy students. Responses indicated that the participants were highly satisfied with issues regarding the consent process, the amount of supervision provided to the students, and the standard of care they received from the students. Participants' personal feelings regarding being treated by physiotherapy students were extremely positive, and the majority indicated that they would be willing to be seen by physiotherapy students in the future. These findings provide valuable data that engenders confidence in the level of care being provided by physiotherapy students to inpatients at HRC. The high degree of satisfaction with the service provided by the physiotherapy students seen in this study reflects favourably on the students themselves, the university providing their training, the clinical educator, and the set-up of the Physiotherapy Department itself where a clinical educator is available to provide direct supervision to students during their clinical placements.

The high level of patient satisfaction with services provided by undergraduate physiotherapy students concurs with literature regarding assessment/treatment by medical students.⁶⁻¹² Interestingly, despite the different student groups involved (i.e. medical or physiotherapy students), the main reasons that patients agreed to be assessed/treated by students were similar between the current study and that of Gandhi et al and Mol et al, with patients wanting to help with the students' education, but also feeling a sense of obligation to participate in student education.^{9,11} Also concurring with the medical literature, negative comments about being assessed/treated by students were uncommon in the current study.^{9,10,12} The concerns raised in the medical literature, albeit infrequently, regarding privacy and confidentiality, the standard of care, and embarrassment were not reported by any participants as being problematic in the current study. However, similar to the medical literature, lack of information regarding the extent of student involvement and fatigue from overly long examinations were identified as being an issue by a few participants in the current study ($\leq 10\%$). Comparing the current study to the recent study that evaluated patient satisfaction with overall physiotherapy services at HRC, high levels of patient satisfaction were seen in both.²³ More detailed comparison of the results was not possible as with the exception of two survey items, their content differed. For the two common survey items (Was the physiotherapy student [physiotherapist] kind, caring, and courteous?; Were your privacy, dignity, and comfort considered by the physiotherapy student [physiotherapist]?), overwhelmingly positive responses were seen in both studies.

Prior to commencing the current study, we had anticipated that a considerable proportion of patients might report the following issues regarding being assessed and treated by undergraduate physiotherapy students. Firstly, students, having less clinical experience, would not be as adept at identifying the key components of assessment/treatment and tailoring, adapting and progressing treatments as efficiently as qualified physiotherapists, resulting in longer treatments, more fatigue, and slower recovery. Secondly, students, being younger (as a rule) and having less life experience, would be less able to understand the physical and emotional impact of the patient's disability. In light of these perceptions, we ensured that the survey was worded to cover these areas, with the findings indicating that these concerns were only infrequently reported by participants.

Areas Where the Service Provided by Physiotherapy Students Can Be Improved

While the findings of this study were overwhelmingly positive, the study identified areas where our service can be improved. The overall results regarding the consent process were positive; however, not all participants were sure that consent had been sought

or that they had been given enough information to allow informed consent ($n = 6$; 10%). Furthermore, a minority were unsure or did not think that they would have been able to discontinue treatment sessions with the physiotherapy student if they had not been satisfied with the treatment that was being provided ($n = 7$, 11%). Thus, it is important that when consent is being sought from a patient regarding student assessment/treatment, the patient is provided with sufficient information, given the opportunity to seek further clarification if required, and specifically informed that they can withdraw their consent and discontinue student treatment at any stage should they so desire. The development of a patient information sheet and/or a written consent form may facilitate this process. Finally, as a small number of participants ($n = 7$; 12%) were unsure or confused about who to report to about their condition (i.e., the qualified physiotherapist or the physiotherapy student). This should be explained clearly and repeatedly.

Limitations of Measuring Satisfaction

The major limitation of the current study was the highly selected sample in that it included only inpatients who were assessed/treated by one group of undergraduate healthcare students (i.e. physiotherapy students) at one rehabilitation centre. While the findings of this study cannot be extrapolated to other student groups or healthcare settings, formal measurement of patient satisfaction with student assessment/treatment is important and the findings will be of interest to other allied health groups, other healthcare settings, and educational institutions where healthcare professionals are trained. It is acknowledged that surveys, such as the one conducted in this study, are attempting to measure multi-dimensional concepts in a simplistic manner. It is possible that patients who were dissatisfied with their care by the students may have been reluctant to report this. However, attempts were made to reduce this potential bias and facilitate honesty of responses by ensuring anonymity and by having a non-clinical person who was independent from the Physiotherapy Department approach patients regarding participation, and if required, assist patients with completion of the survey. Additionally, we ensured that surveys were returned to this independent staff member rather than a member of the Physiotherapy Department to facilitate honesty of responses. While our response rate would be considered excellent, we acknowledge that the non-responders may have been more dissatisfied with the service provided by the physiotherapy students than those who participated in the study.²⁴ Finally, it is possible that some participants may not have been able to differentiate between their qualified physiotherapist and physiotherapy student, which may have influenced their responses. However, all participants indicated that they were able to recall their physiotherapy student, and the nature of many of the free-text comments indicated the participants' awareness of their student's status.

Implications

This study showed a high degree of patient satisfaction with the services provided by physiotherapy students and has identified areas where the service could be improved. Further research using a modified version of the survey could be used to measure patient satisfaction with students from other allied health professions in our rehabilitation centre and in other healthcare settings (e.g. acute hospital, community settings).

Conclusions

Patients receiving assessment and treatment by undergraduate physiotherapy students as part of their inpatient care at a rehabilitation centre reported a high level of satisfaction with the service provided. The process of consent, the amount of supervision provided to the students, the standard of care they received, and personal feelings about being treated by physiotherapy students were all rated highly by participants. This research was relatively straightforward to undertake and has provided data to support the effectiveness of our service in the important area of patient satisfaction.

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