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# Training physiotherapy students to educate patients: A randomised controlled trial

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### ABSTRACT

**Objective:** To determine the effect of a training intervention on physiotherapy students' self-efficacy and skills in the area of patient education.

**Methods:** Final year physiotherapy students were randomised to an intervention group or a wait-list control group. The intervention group participated in a 3.5 h training intervention about patient education that included video observation, simulated patient practice and structured feedback. The control group did not receive any training. Self-efficacy was assessed at baseline (T1) and after the intervention (or no intervention for the control group) (T2). Patient education performance was assessed by a blinded rater from a video-recorded standardised clinical examination.

**Results:** 83 students were randomised to the intervention group and 81 students to the control group. There were no differences in demographic variables or self-efficacy between groups at baseline. There was significant improvement in self-efficacy for the intervention group, but no change for the control group. The intervention group performed significantly better than the control group for nine of the eleven performance items, with significantly higher scores overall.

**Conclusion:** A training intervention enhances physiotherapy student self-efficacy and performance in patient education.

**Practice implication:** Use of patient education training is recommended to enhance student self-efficacy and performance.

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## 1. Introduction

Patient education is defined as “a planned learning experience using a combination of methods such as teaching, counselling, and behaviour modification techniques which influence patients' knowledge and health behaviour” [1, p. 323]. It is an integral component of effective healthcare [2] and a required competency for entry-level physiotherapists in Australia and New Zealand [3]. Patient education helps improve patient self-efficacy [4–6] and self-management [6,7], and enhances physiotherapy outcomes in the areas of pain, disability and function [8,9].

In order for health professionals to attain the knowledge and skills to deliver effective patient education, appropriate training is required [10–13]. Health professionals without formal training in this area tend to rely on simple information dissemination based on personal experience [12,14] or inherent skills rather than

approaches that are embedded in patient educational theory or evidence based practice [11,15–18]. Furthermore, research has highlighted concerns that patient education practiced by physiotherapists fails to meet the requirements of specific practice guidelines [16] and when provided, is primarily therapist-centred in nature [19–22].

In contrast to traditional models of patient education that focus on simple information provision, compliance and dependence, a patient-centred approach to education encourages autonomy through understanding the patient's specific educational needs (termed ‘patient education’ herein) [23,24]. Effective patient education has a focus on assessing the patient's motivation, beliefs and concerns allowing potential barriers to be identified and education to be individualised to the patient's needs [25–27]. It also requires the physiotherapist to seek and apply content and delivery approaches that are relevant to these needs [6] and to evaluate learning through strategies such as checking patient learning or to demonstrate skills they have obtained [26,28–32]. These components of best practice have been strongly recommended within patient education training [26,33].

Self-efficacy has been highlighted within healthcare education literature as an area for specific attention for training of health

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professionals including physiotherapists, given its impact on student engagement, motivation, skill attainment and clinical performance [34,35]. Research suggests that health professionals, including physiotherapists, may be reluctant to use patient education in practice when there is a perceived lack of training or low self-efficacy [11,12,18]. Low self-efficacy has been shown to be a key factor that limits student and new-graduates' from effectively engaging in patient education [12,18,36–38], which in turn may hinder professional development in this area [18]. Health professionals acknowledge that more support in developing skills in patient education is needed [18,39,40].

Recent research demonstrates that physiotherapists identify direct experience with patients and professional in-service training as the most important factors contributing to their development of patient education skills, rather than their pre-professional training [41]. Another study investigated the self-efficacy of physiotherapy new-graduates relating to their patient education skills and demonstrated that the most influential training experience was direct clinical practice, in addition to observation, feedback and rehearsal [27]. Understanding how to educate physiotherapy students to develop patient education skills is fundamental to ensuring graduates meet required competencies [3,27]. Although no one single approach to training is suitable for all students [42], teaching approaches that incorporate principles of adult learning such as experiential and problem based learning are supported within health educational literature [43,44]. Simulation approaches using patient actors [44–48] and video-based examples [48,49] in particular, have yielded positive results for clinical and communication competencies of health professional students [44–47]. Furthermore, previous research demonstrates that brief, high intensity, active approaches using multiple teaching and learning strategies enhance knowledge, self-efficacy and performance of patient-centred care [44].

There is no known research in the area of training patient education skills in physiotherapy students. The effect of different types of training on other health professional students' performance of patient education is promising but evidence is limited by methodological weakness. No studies to date have used a matched control group to demonstrate the effectiveness of training and no objective assessment of patient education skills have been employed to assess outcomes. Furthermore, the effect of specific training on patient education skills or self-efficacy of physiotherapy students has not been investigated.

It is important to consider how to integrate such a training intervention into the existing physiotherapy curriculum. Physiotherapy training providers are under increasing pressure to fit all required content and face resource constraints [50]. Emphasis should be on innovative, efficient, evidence based pedagogies that equip learners to become effective patient educators. Numerous studies support the use of simulated patient pedagogy to provide learners with interactive opportunities to enhance clinical knowledge, communication and patient-centred skills, while also producing high teaching and learning satisfaction for staff and students [44,48,51–53].

We hypothesised that the patient education training intervention would yield i) higher ratings of patient education self-efficacy compared to a control group, and ii) better performance of patient education skills compared to a control group.

## 2. Methods

### 2.1. Design

The study was a parallel group randomised controlled trial conducted at The University of Queensland. The study was approved by the institutional research ethics committee and participants provided informed consent prior to participation. A wait-list control design was selected to ensure control participants were not disadvantaged in their subsequent course examinations. An independent researcher generated a random number list to determine participant group allocation (intervention or control). This was implemented via concealed randomization whereby the intervention facilitator assigned each student to either an intervention group that participated in the intervention before the practical assessment or to a wait-list control group that received the intervention after completion of all study evaluations. All participants completed baseline questions (demographics and self-efficacy). All participants undertook an objective standardised clinical examination (OSCE) immediately after the intervention that was video recorded and later evaluated by an independent assessor who was blinded to group allocation.

### 2.2. Sample

Physiotherapy students from The University of Queensland who were undertaking their final year of the program were recruited for participation. The intervention was embedded into the existing course timetable. By this stage in the program, students had not yet participated in clinical placements but had undertaken courses that utilised simulated patients (actors trained to portray patients in simulated clinical settings) and role play. All students were informed that their participation and performance within the study would not influence their final course grades. Attendance to the intervention was compulsory, however involvement in the evaluation components was voluntary and students provided informed consent to participate.

### 2.3. Description of experimental intervention

Skill components reflected in the intervention framework consisted of (Table 1):

- a) assessing the educational needs of the patient
- b) delivering education content (verbal, written and skill based) that is tailored to the patient and
- c) evaluating patient learning.

**Table 1**  
Outline of workshop learning objectives.

1. Understand the relationship between patient-centred care and patient education
2. Demonstrate an understanding of the principles of adult learning and how they apply to patient education
3. Demonstrate an understanding of health literacy and its application to patient education
4. Determine the patient's learning needs, existing knowledge, concerns and preferences
5. Develop and prioritise tailored educational content and delivery approaches based on the educational needs of the patient
6. Demonstrate patient education consistent with principles of adult learning
7. Identify and manage barriers to effective learning
8. Select and demonstrate methods to evaluate the outcomes of patient education

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