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Implementation of person-centred practice principles and behaviour change techniques after a two-day training workshop: a nested case study involving physiotherapists

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Running Head: Physiotherapists and person-centred practice

List of abbreviations

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OA: osteoarthritis

Declarations

Ethics approval and consent to participate

Ethics approval was obtained from the institutional research ethics committee (University of Melbourne School of Health Sciences Human Ethics Advisory Group) and participant consent was obtained.

Competing interests

JG owns HealthChange Australia, which provided the training to the physiotherapists, and employs CB as a training facilitator.

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Authors' contributions

BJL and RSH contributed to conception and design, analysis and interpretation of data, and drafting of the manuscript. JK contributed to analysis and interpretation of data and drafting of the manuscript. KLB contributed to conception and design, and revising the manuscript for intellectual content. PKC recruited physiotherapists and patients, and contributed to data collection and interpretation. CB trained the physiotherapists, audited telephone calls, and contributed to collection, design and interpretation. JG contributed to conception, design and interpretation and developed HealthChange® Methodology that underpins the training program. All authors read and approved the final manuscript. RSH, KLB and JG obtained the funding for this study.

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Abstract

Objectives. To determine how well physiotherapists implement person-centred practice principles and behaviour change techniques after a workshop and to evaluate whether self-audit of performance differed to audits of an experienced training facilitator.

Methods. Eight physiotherapists completed a two-day workshop followed by two telephone consultations with four patients with knee osteoarthritis each. The training facilitator audited audio-recordings of all consultations and therapists self-audited 50% of consultations using a tool comprising: i) 10 person-centred practice principles rated on a numerical rating scale of 0 (need to work on this) to 10 (doing really well) and; ii) seven behaviour change techniques rated with an ordinal scale (using this technique effectively; need to improve skill level or; need to learn how to apply this technique).

Results. Physiotherapists showed “moderate” fidelity to person-centred principles, with mean scores between 5 -7 out of 10. For behaviour change techniques, the training facilitator believed physiotherapists were using three of seven techniques “effectively” during most consultations and “needed to improve skill levels” with most other techniques. Physiotherapists scored themselves significantly lower than the training facilitator for two of 10 person-centred principles, and tended to rate their skills using behaviour change techniques less favourably.

Conclusions. Physiotherapists performed moderately well when implementing person-centred practice principles and behaviour change techniques immediately after training, but had room for improvement particularly for skills relating to providing management options and changing thinking habits. Physiotherapists’ self-ratings of performance generally did not

differ from expert ratings, however they underestimated their ability to implement some principles and techniques.

Key words: Physiotherapy; training; fidelity; behaviour change; person-centred; clinical trial; RCT

Introduction

Person-centred care, broadly defined as care that is respectful of individual patient needs and preferences (Australian Commission on Safety and Quality in Healthcare, 2010; Epping-Jordan et al., 2004; Van Royen et al., 2010), is recognised as a crucial component of healthcare (Mead & Bower, 2000; National Research Council, 2001). Person-centred practice requires clinicians to adopt an individualised and holistic (i.e. biopsychosocial) approach to patient management (Leplege et al., 2007). This includes shared decision-making with the patient, provision of information about the disease/condition and its management options, and a communication style focussed on patient empowerment and physical and emotional support (Ekman et al., 2011; Leplege et al., 2007; Scholl et al., 2014). In this way, person-centred care can aid self-management of health conditions that involve adopting new behaviours (e.g. participation in an exercise program) or changing existing behaviour (e.g. smoking cessation) by taking into account individual preferences and barriers/enablers to change (Mead & Bower, 2000). Evidence from systematic reviews shows numerous advantages of person-centred approaches to care, including benefits on consultation processes (e.g. clarifying patient concerns and beliefs, communicating treatment options, empathy) (Dwamena et al., 2012), increased patient satisfaction with care (Rathert et al., 2012), enhanced patient ability to self-manage (Rathert et al., 2012), and improved health outcomes (Olsson et al., 2013; Stewart, 1995).

Although healthcare professionals acknowledge the importance of providing care that is person-centred, and often believe that they are doing so (Ekman et al., 2011), many remain

focused on the physical or biological elements of the disease/condition, without considering the psychosocial aspects (Edvardsson et al., 2008; Ekman et al., 2011; McCormack et al., 2010). Physiotherapists frequently assist in the management of a spectrum of acute and chronic musculoskeletal, cardiorespiratory, and neurological conditions. A common goal of physiotherapy management is to promote patient self-management, which often requires patients to adhere to exercise programs and/or physical activity recommendations. As such, a person-centred approach to care is advocated by the Australian Physiotherapy Association (Australian Physiotherapy Association, 2011). However, many physiotherapists do not communicate using person-centred principles (Emilson et al., 2016; Potter et al., 2003), and often adopt paternalistic approaches to exercise prescription (Holden et al., 2009). In addition, there is evidence that communication between patients and physiotherapists in private practice is principally “practitioner-centred”, where the relationship is controlled by the practitioner’s agenda (Hiller et al., 2015). Significantly, patients themselves have acknowledged the importance of receiving physiotherapy care that is person-centred (Cooper et al., 2008; Kidd et al., 2011; Papandony et al., 2017).

Research suggests that physiotherapists may not possess the knowledge, skills, or confidence required to use person-centred practices during clinical consultations (Alexanders et al., 2015; Driver et al., 2016; Sanders et al., 2014; Synnott et al., 2015). Although physiotherapists hold positive attitudes towards the use of psychological interventions (e.g. goal setting, positive reinforcement, and motivational interviewing), barriers to implementing these strategies in clinical practice include lack of knowledge, time constraints, and issues

associated with role clarity (Alexanders et al., 2015; Driver et al., 2016; Synnott et al., 2015). Professional training and education has been identified as a facilitator to the implementation of person-centred care practices (Moore et al., 2016). A Cochrane review showed training programs that promote patient-centred care within clinical consultations are effective in transferring patient-centred skills to healthcare providers (Dwamena et al., 2012), however none of the included studies involved physiotherapists.

Using semi-structured interviews, we recently explored physiotherapists' experiences with, and impacts of, a training program in person-centred practice to support exercise adherence in people with knee osteoarthritis (Lawford et al., 2017). We found that although physiotherapists found training overwhelming initially as they realised the limitations of their current knowledge and clinical practice, they felt more confident and able to provide person-centred care to people with knee osteoarthritis by the end of training. As that study was qualitative, it remains unknown how well the therapists were able to implement person-centred care practices immediately following training. Audit of patient consultations is required to address this important research question. The primary aim of this study was to audit consultations to determine how well physiotherapists implement person-centred practice principles and behaviour change techniques into patient consultations after participation in a 2-day training workshop. A secondary aim was to evaluate whether therapist self-audit of performance differed to the audit findings of an experienced person-centred care training facilitator.

Methods

This study was nested within the Telecare randomised controlled trial (RCT). A detailed study protocol for the Telecare trial has been published (Hinman et al., 2017), including specific details of the intervention.

Participants

All eight physiotherapists that were employed to deliver care in the Telecare trial participated. Physiotherapists were recruited from Victoria, Australia, using the research team's clinician networks. Physiotherapist selection criteria were i) physiotherapy qualification; ii) at least two years of clinical experience treating patients with musculoskeletal conditions and; iii) current Australian registration to practice as a physiotherapist. All physiotherapists provided written informed consent and the institutional ethics committee approved the study.

Training program

Physiotherapists completed a training program delivered by HealthChange Australia (Core Training Part 1; <http://www.healthchange.com/>), which provides a health service delivery methodology (HealthChange® Methodology) that enables health service providers to embed person-centred care into clinical consultations, care planning, discharge planning, disease management, health promotion, rehabilitation, return to work and other health services. HealthChange® Methodology provides a framework which aims to help health service providers improve client health literacy, shared decision-making, self-management and

behaviour change. The Methodology integrates numerous models and theoretical concepts of behaviour change, addressing three main processes to optimally facilitate health behaviour change in clients: i) formulating a behavioural goal intention, ii) converting intention into action and self-regulation, and iii) person-centred communication processes (Gale & Skouteris, 2013). HealthChange® Methodology defines a set of person-centred practice principles and techniques that allow and encourage self-reflection, as well as enabling assessment of how well the intervention is implemented.

The training program comprised two back-to-back training days run by a senior facilitator (CB, a musculoskeletal physiotherapist) from HealthChange Australia in a workshop-style format. This involved lectures, practice activities, group discussions, and video demonstrations of how to apply person-centred practice principles and techniques (Table 1) in clinical scenarios. The workshop provided training in how to apply HealthChange® Methodology's nine person-centred practice principles, seven essential behaviour change techniques (Table 1), and 10 Step Decision Framework (Figure 1), in clinical practice. Physiotherapists were provided with lecture notes, and a mini-guide summarising HealthChange® Methodology principles and techniques. At the end of the workshop, physiotherapists were provided with a structured consultation framework to use during their initial and follow-up telephone consultations for the randomised controlled trial, embedded within online treatment notes, with prompts for when, and how, to use HealthChange® Methodology in their consultations.

Patient consultations

Following training, each physiotherapist was randomly assigned four patients with knee OA in order to practice implementing the person-centred practice principles and techniques taught. These patients were participants in the Telecare trial who were recruited from the community, as described elsewhere (Hinman et al., 2017). Each physiotherapist made two telephone calls to each patient (total of 8 consultations per physiotherapist). The aim of the initial consultation (approx. 45min) was to commence the patient on a structured strengthening program and/or an action plan to increase physical activity levels. The follow-up consultation two weeks later (approx. 20min) aimed to review progress and modify the program/plan as needed, using person-centred practice principles to proactively overcome barriers to following the advice provided at the initial consultation. Patients were provided with an information folder that aimed to increase their knowledge about OA and its management, the role of exercise and physical activity, and strategies for fatigue management. A personal self-management plan was also included, as well as exercise instructions, and a diary to record exercise adherence and knee symptoms. Patients were also provided with access to a study website with video demonstrations of home exercises. All calls were audio-recorded using an application (“TapeACall” iPhone and Android App, TelTech, New Jersey USA) downloaded to each physiotherapist’s mobile telephone.

Skills audit

Using the audio recordings, physiotherapists were asked to self-audit 50% (to minimise physiotherapist burden prior to starting the main trial) of their consultations (including any

two initial and two follow-up consultations), resulting in four audits each. The purpose of the self-audit was to reflect on their implementation of the person-centred practice principles and behaviour change techniques, including the language used and topics discussed with patients, during consultations. The self-audit form (Appendix 1) comprised two sections assessing use of: i) HealthChange® Methodology's 10 person-centred practice principles (rated using 11-point numerical rating scales ranging from 0 ("I need to work on this") to 10 ("I am doing really well")) and; ii) HealthChange® Methodology's 7 essential behaviour change techniques (rated using ordinal scales with options of "I am already using this technique effectively"; "I need to improve my skill level in using this technique" or; "I need to learn how to apply this technique"). In addition, the training facilitator (CB) independently audited all telephone consultations using an identical audit form. Fidelity to person-centred practice principles (scored from 0 to 10 as described above) was classified as "low" if scores were between 0 and 4, "moderate" if between 5 and 7, or "high" if between 8 and 10.

Data analysis

Analysis was undertaken using the Statistical Package for the Social Sciences (SPSS, IBM corp., Version 22, Armonk USA). To assess fidelity (primary aim) to each person-centred practice principle (continuous data), means and standard deviations of scores were calculated for physiotherapists and the training facilitator separately. To assess fidelity (primary aim) to behaviour change techniques (ordinal data), the proportion of consultations which were rated as either "I am already using this technique effectively"; "I need to improve my skill level in using this technique" or; "I need to learn how to apply this technique" was calculated.

To assess whether self-audits of person-centred practice principles (continuous data) differed to audits by the expert (secondary aim), differences in physiotherapist and training facilitator ratings were estimated using linear mixed-effects models, which included a random intercept for physiotherapist to account for repeated measures on the same physiotherapist. Given the small sample size, results must be interpreted cautiously. Plots of residuals were checked to ensure validity of the usual assumptions of linear regression models (linearity, constant variance, and normality). Individual variations of person-centred practice principle scores across physiotherapists were represented graphically by plotting radar graphs of the scores obtained from the four consultations audited by both physiotherapists and the training facilitator in Microsoft Excel. To assess whether self-audits of behaviour change techniques (ordinal data) differed to audits by the expert (secondary aim), physiotherapist and training facilitator ratings were compared using chi-squared tests. All p-values were two-sided, with significance set at 0.05.

Results

The sample comprised an equal number of male (n=4) and female (n=4) physiotherapists, of mean (range) age of 35 (26-50) years and with 14 (4-28) years of clinical experience. Five (63%) worked exclusively in private practice, one (13%) exclusively in public practice, and two (25%) in a combination of private and public practice. Three (38%) had previously participated in a day or weekend course in behaviour change support/techniques (not specifically in HealthChange® Methodology).

Recording failed for three telephone calls (two initial consultations and one follow-up, from different physiotherapists), leaving a total of 61 calls across 32 patients with knee OA (mean (SD) age 60.8 (8.4) years, 29 (91%) female). The mean (SD) length of initial consultations was 51.5 (2.0) minutes and 29.8 (3.5) minutes for follow-up consultations. Each physiotherapist completed the required number of self-audits, and the training facilitator audited all 61 (100%) of the recorded consultations. All but two physiotherapists audited initial and follow-up consultations that were with the same patient. As physiotherapists had three months to complete two consultations with each of their patients, the timing of telephone calls was not standardised, instead dictated by physiotherapist and patient availability. Therefore, many (six of eight) physiotherapists had already completed initial and follow-up calls with their first patient, before moving on to their second. Most (seven of eight) physiotherapists audited their very first four telephone consultations, with one physiotherapist auditing some later consultations.

Primary aim- use of person-centred practice principles

Table 2 reports audit findings against the 10 person-centred practice principles. Average physiotherapist audit scores ranged from a mean (SD) of 5.5 (1.7) (“use the wait ‘til 8 technique to allow people time to think and respond to questions”) to 6.9 (1.2) (“using a person-centred approach that promotes a person’s choice and control”) out of 10. The average training facilitator audit scores ranged from 6.2 (1.2) (“address all four aspects of goal setting when discussing and setting goals with a person”) to 7.0 (1.4) (“using a person-

centred approach that promotes a person's choice and control"). As such, both the physiotherapists and training facilitator believed that the therapists showed "moderate" fidelity to person-centred principles, with mean scores for all 10 principles lying between 5 and 7 (out of 10).

Primary aim- use of essential behaviour change techniques

Figure 2 depicts the proportion of physiotherapists who were using each technique effectively, according to both self-audit (n = 32 calls) and audit by the training facilitator (n = 61 calls). Both self-ratings and training facilitator ratings indicated that physiotherapists were using three of seven (43%) techniques "effectively" during the majority ($\geq 50\%$) of consultations, including: i) tracking and monitoring strategies; ii) RICK radar (intuition), and; iii) client first. Physiotherapists needed to "improve their skill level" using the techniques of changing thinking habits and menu of options in more than 50% of consultations. The technique of RICK-focused decisional balance was rated as "not applicable" by the training facilitator in $>75\%$ of consultations.

Secondary aim- differences in self- and expert ratings of person-centred practice principles

Physiotherapists scored themselves significantly lower than the training facilitator for two principles: a) "first ask a person for their input or permission before offering advice or asking for information" (-0.8 (-1.4, -0.2)); and; b) "use the wait 'til 8 technique to allow people time to think and respond to questions" (-1.2 (-1.7, -0.6)). Figure 3 highlights the individual

variation in implementation of person-centred practice principles within, and between, physiotherapists across consultations, and relative to the training facilitator.

Secondary aim- differences in self- and expert ratings of behaviour change techniques

There were significant differences between physiotherapist and training facilitator ratings for four of seven techniques, with the therapists tending to rate themselves less favourably than the facilitator. For example, the training facilitator believed physiotherapists were using the techniques of RICK radar (intuition), ask RICK, and tracking and monitoring strategies “effectively” in a significantly higher proportion of consultations than the physiotherapists did. The training facilitator also rated the technique of “RICK-focused decisional balance” as being not applicable in significantly more consultations than the physiotherapists did.

Discussion

The primary aim of this study was to determine how well physiotherapists implement person-centred practice principles and behaviour change techniques into patient consultations after participation in a 2-day training workshop. After auditing consultations, the expert training facilitator felt that physiotherapists performed moderately well in implementing person-centred practice principles overall, but there was still room for improvement across all 10 principles. Although physiotherapists used three behaviour change techniques effectively during most consultations, the training facilitator felt that physiotherapists still needed to improve their skill level with two techniques (“changing thinking habits” and “menu of options”). We found that physiotherapists’ self-ratings of performance were mostly consistent

with the expert, however they underestimated their ability to implement three of the 10 person-centred principles and four of the seven behaviour change techniques, possibly indicating a lack of confidence, incomplete understanding of these principles/techniques, or a lack of awareness that they were actually using these techniques. Our findings support the need for ongoing practice beyond training to further consolidate skill acquisition.

These findings broadly reflect those of the Cochrane review exploring training of health professionals in person-centred techniques or practices (Dwamena et al., 2012). That review concluded that interventions to promote patient-centred care within clinical consultations are effective in transferring patient-centred skills to providers. However, most of the 43 trials included in the review involved primary care physicians (i.e. general practitioners, paediatricians, or family doctors) or nurses, and none involved physiotherapists. In addition, studies included in the review varied vastly in terms of skills taught, teaching methods, length of training, as well as the methodological approach to assess training outcomes. Most studies (35 of 43) evaluated the impact of training on consultation processes, by measuring some aspect of consultation behaviour or the occurrence (or not) of patient-centred actions during a consultation. This was done via audit of video or audio recordings, generally performed by an expert in the field or the authors of the study. To our knowledge, none of these studies included self-rating of person-centred skills by the health professionals involved in the training. The Cochrane review concluded that short-term (<10hr) training programs were just as effective as longer ones (Dwamena et al., 2012), and our findings showed that physiotherapists were generally able to implement person-centred practice principles and

behaviour change techniques following a 16-hour training program. Although HealthChange Australia offer single-day (7hr) training programs, the 16-hour program allows more time for discussion and practical exercises, which is recommended for effective clinician training in behaviour change methodologies (Bellg et al., 2004). However, a limitation of our study is that we did not collect baseline data from physical therapist consultations prior to training or recruit a control group who did not complete training (due to financial and logistical constraints of the overarching clinical trial) so we cannot draw definitive conclusions about the effectiveness of the training program we investigated.

Few studies have audited physical therapist consultation behaviours following training. Eleven physiotherapists who completed a training program in cognitive behavioural therapy also achieved moderately high scores when using these new skills with patients (mean (standard deviation): 3.7 (0.4) out of 5) (Bryant et al., 2014). Their training program involved an initial four-day workshop followed by an unspecified period of weekly tutorials, during which audio recordings of practice consultations were reviewed by an expert to determine readiness to deliver the intervention. Although audit feedback was provided to the physiotherapists in that study, they did not formally self-assess their own skills. Another study focused on a communication skills training program for physiotherapists (Murray et al., 2015), involving an initial eight-hour workshop, after which consultations with patients were audio recorded and assessed by independent experts using the Health Care Climate Questionnaire to assess physiotherapists' communication and needs support behaviour. Those physiotherapists were found to provide greater support for patient needs (scores not reported)

when compared to physiotherapists who did not complete the training, however audit results were not fed back to the physiotherapists, and they did not self-assess their skills. A more recent study investigated a physiotherapist training program in a self-management intervention for people with OA and low back pain involving a communication style based on self-determination theory (Keogh et al., 2017). Physiotherapists' skills were assessed via expert audit of consultations, which found that they used most communication techniques competently, but were not satisfactorily using goal setting techniques. This contrasts with our findings, where physiotherapists appeared to be implementing goal setting techniques moderately well (scoring 6.1-6.2 out of 10 for self- and expert audit). However, direct comparison across studies is difficult given differences in behaviour change training programs evaluated and in the audit tools used to assess competence.

Although physiotherapists completed a 16-hr training workshop in person-centred practice, post-training audit findings indicated that all had scope to further improve their skills. Our related qualitative study (Lawford et al., 2017) explored physiotherapists' experiences with the training program, finding that they all felt overwhelmed by the training content and believed that it deviated from their usual communication style. This indicates that physiotherapists were on a steep learning curve, which might explain why our audit findings indicated there was still room for improvement across the skills and techniques taught. Our findings suggest that skill acquisition takes time and continued practice, and provide preliminary support for the model of training preferred by HealthChange Australia, where a final training day (Core Training Part 2) is held 3-months after the first two training days

(Core Training Part 1). In between, ongoing and deliberate practice of skills and techniques is recommended and self-reflection on performance during clinical consultations is encouraged. Unpublished data from HealthChange Australia demonstrates that health professionals who complete their training program report increased confidence after completing a third and final training day (Core Training Part 2), and our qualitative data also supports this (Lawford et al., 2017).

We found reasonable agreement between physiotherapists' self-audit scores and the training facilitator's audit scores for most person-centred principles and behaviour change techniques. This suggests that physiotherapists in this study were generally able to make accurate judgements about their skill level, however they did significantly underestimate their skill level using three (of 10) person-centred principles and four (of seven) behaviour change techniques. This may reflect a lack of confidence in applying those principles and techniques, or may indicate that physiotherapists found them more difficult to learn and/or adopt into their practice. In fact, physiotherapists did report a lack of confidence after the first two training days in our related qualitative study (Lawford et al., 2017). Our findings might also simply reflect the fact that physiotherapists were inexperienced using the techniques, and so had a poor gauge of their skill level relative to an "expert". There is evidence that learners who are less competent are less able to accurately self-assess their skills (leading to either under- or over-estimation of skills) (Colthart et al., 2008; Davis et al., 2006). A recent study found evidence of good agreement between provider self-report and independently rated skills when assessing the fidelity of a self-management intervention for people with chronic

low back pain or OA (Toomey et al., 2016). However, research indicates that there is little to no relationship between self- and external audit of clinical skills amongst physicians (Davis et al., 2006). General practitioners who received training in motivational interviewing completed self-ratings of their skills during patient consultations, which were also independently rated by an expert (Hartzler et al., 2007). There was reasonable agreement between practitioner and expert ratings, and a tendency for practitioners to underestimate their skills, similar to our findings amongst physiotherapists.

Physiotherapists in our study completed their consultations via telephone, rather than face-to-face. Provision of telephone-delivered consultations is not typical practice for most Australian physiotherapists, and may have been a more challenging mode of service delivery for our therapists, possibly hampering their ability to implement newly-acquired person-centred practice skills and behaviour change techniques. Our findings demonstrate that physiotherapists were still able to deliver person-centred care moderately well via telephone, despite the lack of face-to-face contact with patients. In fact, we interviewed this same cohort of physiotherapists after they had delivered all of their telephone consultations for the RCT and found that they believed they were able to develop a strong rapport with their patients (Lawford et al., 2018). Based on their experiences delivering care for the RCT, they believed the telephone environment allowed them to have a more detailed and personal conversation with patient than their usual (non-telephone) clinical practice. Similarly, in other populations telehealth has been shown to offer a viable environment for the delivery of person-centred care for patients. For example, qualitative interviews with 20 telehealth professionals who

provide care for patients with chronic heart failure revealed that non-video technology creates an atmosphere that encourages sharing of personal information, as well as a non-judgemental attitude in clinicians (Heckemann et al., 2016). Participants in that study (Heckemann et al., 2016) also highlighted that professional training for telehealth providers does not sufficiently address person-centred care, further reinforcing the importance of person-centred training programs for healthcare providers irrespective of the mode of service delivery.

Our study has a number of strengths. By audio-recording and auditing consultations, we directly measured skill level with person-centred practice principles and behaviour change techniques, rather than relying on retrospective clinician self-report of performance. In fact, using independently rated audio recordings and self-report checklists have been shown as the most acceptable and practical methods for assessing implementation fidelity in physiotherapy practice (Toomey et al., 2016). We also used both self-audits as well as audits from an expert, which increases the robustness of our findings. Our study evaluated a training program that is widely adopted by Australian health care providers and policy-makers, and is accessible to Australian physiotherapists and other health professionals for a cost. Our study also has a number of limitations. As physiotherapists were free to audit any of their consultations, it is possible that they opted to audit their “best” consultations, and therefore our findings may overestimate their capacity for person-centred practice. In addition, our sample was constrained to a small number of physiotherapists involved in a randomised controlled trial, who were reimbursed for their time spent in training and in delivering telephone consultations. These physiotherapists may have thus been more motivated to learn than the

broader population of physiotherapists. In addition, as we did not conduct a pre-training audit of our physiotherapists' consultations, or add a comparison group that did not receive training, we cannot conclude anything about the effectiveness of this training program. Future research should investigate the impact this training has on patient outcomes, and whether physical therapist skills can be maintained, or improve with continued practice, over the long-term. This is particularly important given recent evidence that the initial benefits gained from a physical therapist training program in exercise management for knee OA were not all maintained in the long-term (Holden et al., 2016).

Conclusions

Physiotherapists performed moderately well when implementing person-centred practice principles and behaviour change techniques immediately after training, but with room for improvement from further practice and/or training prior to Telecare trial commencement. In particular, physiotherapists needed to improve their skills in changing patient's thinking habits and offering a range of treatment options. Physiotherapists' self-ratings of performance generally did not differ from expert ratings, however they underestimated their ability to implement some principles and techniques.

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Table 1. HealthChange® Methodology person-centred practice principles and essential behaviour change techniques.

Person-centred practice principles	Explanation
Client-centred, Client choice, Client Control	A practice principle that prompts clinicians to be person-centred by balancing duty of care with patients' rights to make fully informed, conscious decisions about what actions they will take. Encourages respect for autonomy and choice wherever possible.
Call it as you see it (with tact)	A practice principle that prompts clinicians to engage in honest and open communication with patients and refrain from engaging in pretence in relation to patients' readiness to take action. Calls for clinicians to tactfully highlight contradictions in a person's behaviour with regard to readiness.
Four aspects of goal setting	A practice principle that outlines four aspects that need to be considered when setting health and quality of life goals with patients: 1) objective clinical targets; 2) behavioural treatment, lifestyle and referral categories; 3) short-term behavioural personalised health goals; 4) motivational drivers. Structures goal setting processes to be systematic and effective.
One thing at a time, One step at a time, Adding up over time	A practice principle that prompts clinicians to engage patients in goal setting and action planning in manner that ensures goals and actions are realistic, manageable and clinically effective over time.
The RICK Principle®	A practice principle that prompts clinicians to consider that in order to take action on recommendations, patients need to be R eady, think the actions are I mportant enough to do, have the C onfidence to do them, and have enough k nowledge about what they are trying to do and why, so that they are more likely to take and sustain action over time.
First ask, then offer	A practice principle that prompts clinicians to check patients' existing knowledge and ideas prior to offering information, education or suggestions. Used to identify correct understanding, knowledge gaps and misinformation and allow tailored provision of information.
Wait 'til 8	A practice principle that prompts clinicians to provide patients with adequate thinking time (8 seconds) to formulate responses to questions that need consideration.
Invite the client to write	A practice principle that prompts clinicians to invite patients to write down any aspects of a consultation that they might wish to review later.
Trial & error	A practice principle that prompts clinicians to encourage a trial and error approach to taking action and changing complex behaviours so that patients are more likely to persevere in the face of barriers to action.
Essential behaviour change techniques	Explanation
Client first	A technique that provides a formula to construct phrasing to operationalise the 'First Ask' part of the First Ask, then Offer principle to elicit patient knowledge and ideas prior to offering information.

Menu of options	A technique that provides a formula to construct phrasing to operationalise the 'then Offer' part of the First Ask, then Offer principle to offer information and choice in a person-centred way.
RICK Radar [®]	A technique that prompts clinicians to consider both verbal and non-verbal cues regarding patients' Readiness, Importance, Confidence and knowledge levels relating to taking recommended actions and to detect ambivalence to taking action.
Ask RICK [®]	A technique that provides instruction on how to effectively inquire about patients' levels of Readiness, Importance, Confidence and knowledge (health literacy) when these are not obvious to the clinician.
RICK –focused decisional balance	An extended decisional balance technique that incorporates actively assessing, building and reinforcing Readiness, Importance, Confidence and knowledge (health literacy) into the process of inquiring about the pros and cons of two sides of a decision.
Changing thinking habits	A technique that provides clinicians with a formula to construct phrasing to identify everyday thinking barriers that may impact on patients' ability to carry out agreed tasks within the agreed time frame.
Tracking & monitoring	Techniques that enable clinicians and patients to track behaviours and monitor outcomes for the purpose of assessing and reinforcing progress. To be included in action plans.

RICK: Readiness, Importance, Confidence, knowledge

Table 2. Audit findings for person-centred practice principles.

Category	Physiotherapist (n=32) Mean (SD)	Training facilitator (n=61) Mean (SD)	Mean difference (95% CI) between ratings	P-value
Using a person-centred approach that promotes a person's choice and control	6.9 (1.2)	7.0 (1.4)	-0.1 (-0.7, 0.5)	0.668
Use call it as you see it principle to tactfully highlight contradictions in a person's behaviour	6.7 (1.0)	6.4 (1.1)	0.2 (-0.3, 0.7)	0.394
Address all four aspects of goal setting when discussing and setting goals with a person	6.1 (1.1)	6.2 (1.2)	-0.1 (-0.7, 0.4)	0.626
Give people permission to focus on one thing at a time, one step at a time, adding up over time	6.6 (1.3)	6.9 (1.2)	-0.2 (-0.8, 0.3)	0.381
Use the RICK principle to consider a person's motivation for taking action	6.3 (1.4)	6.8 (1.0)	-0.5 (-1.0, 0.0)	0.067
Use the RICK principle to consider a person's confidence in carrying out agreed tasks	6.3 (1.3)	6.7 (1.2)	-0.4 (-1.0, 0.1)	0.104
First ask a person for their input or permission before offering advice or asking for information	5.8 (1.5)	6.6 (1.4)	-0.8 (-1.4, -0.2)	0.008
Use the wait til 8 technique to allow people time to think and respond to questions	5.5 (1.7)	6.7 (1.1)	-1.2 (-1.8, -0.6)	<0.001
Invite the client (or other person) to write any information or tasks that they need to remember later	6.5 (1.5)	6.6 (1.5)	-0.1 (-0.7, 0.6)	0.822
Encourage a trial and error approach when helping a person to change their daily habits	6.3 (1.2)	6.5 (1.5)	-0.2 (-0.9, 0.4)	0.504

Scores are averaged across initial and follow-up consultations, and across physiotherapists, where n indicates the number of telephone consultations.

RICK: Readiness, importance, confidence, knowledge; CI: confidence interval; n: number of telephone consultations. Ratings are out of 10, where 0 = I need to work on this, and 10 = I am doing really well.

Figure 1. HealthChange 10 Step Decision Framework

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Figure 2. Behaviour change techniques across physiotherapist audits (n=32) and training facilitator audits (n=61).

PT: physiotherapist; TF: training facilitator

Figure 3. Individual physiotherapist (PT) audit ratings for each person-centred practice principle

Scores displayed are for the four phone calls audited by both the physiotherapist and training facilitator. Ratings range from 0 to 10, where 0 = I need to work on this, and 10 = I am doing really well. RICK: readiness, importance, confidence, knowledge. Gaps indicate missing data.

Figure 3 cont. Individual physiotherapist (PT) audit ratings for each person-centred practice principle

Scores displayed are for the four phone calls audited by both the physiotherapist and training facilitator. Ratings range from 0 to 10, where 0 = I need to work on this, and 10 = I am doing really well. RICK: readiness, importance, confidence, knowledge. Gaps indicate missing data.

Appendix 1

HealthChange® Methodology

10 Step Decision Framework



Set the scene & explain your role

- ① Identify, discuss & summarise clinical issues
- ② Identify & discuss all treatment, lifestyle & referral categories
- ③ Prioritise & choose categories to work on in this consultation
- ④ Check RICK & make a decision

Decision Line

Macro view

Ready to take action

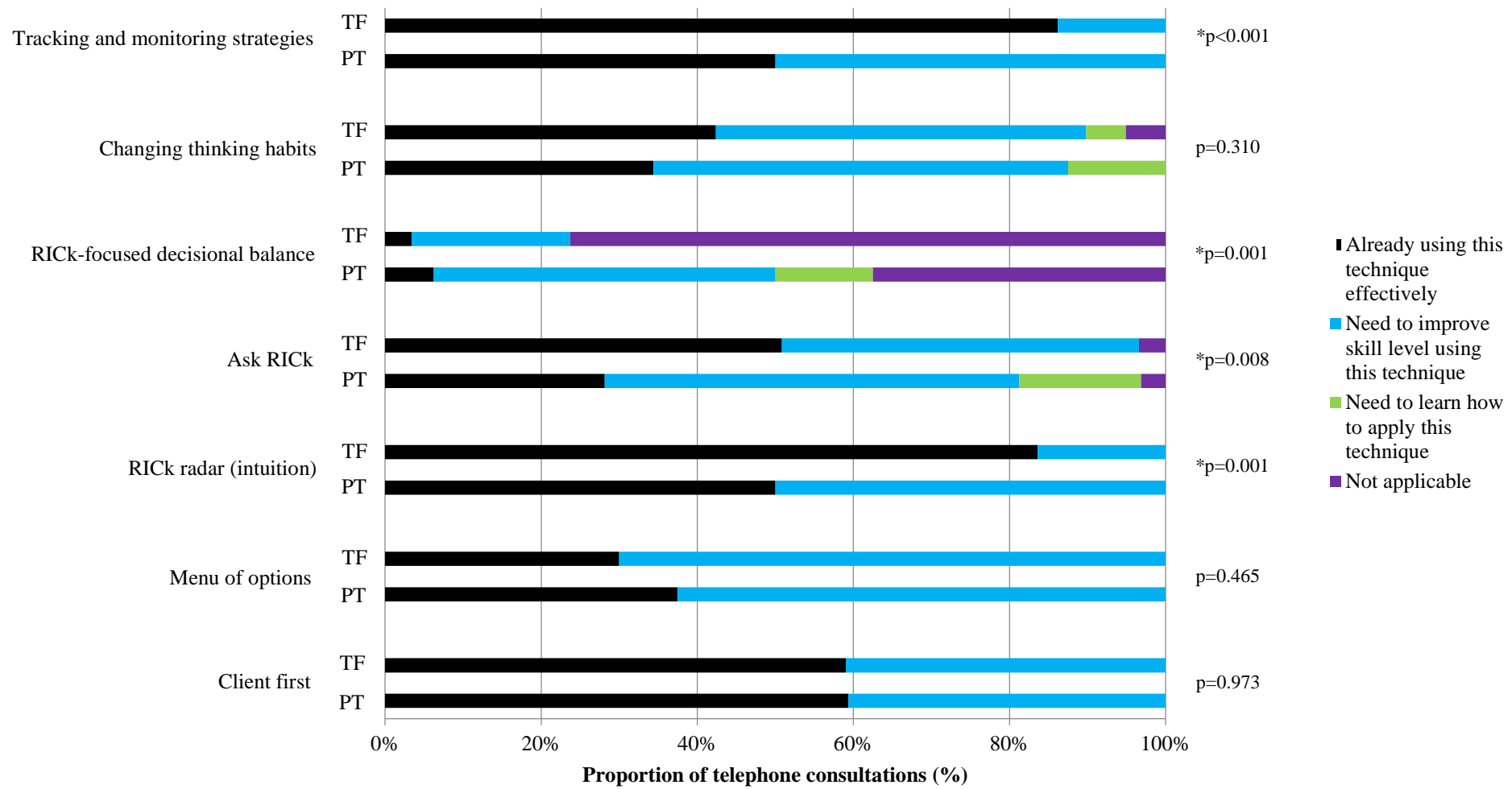
Micro view

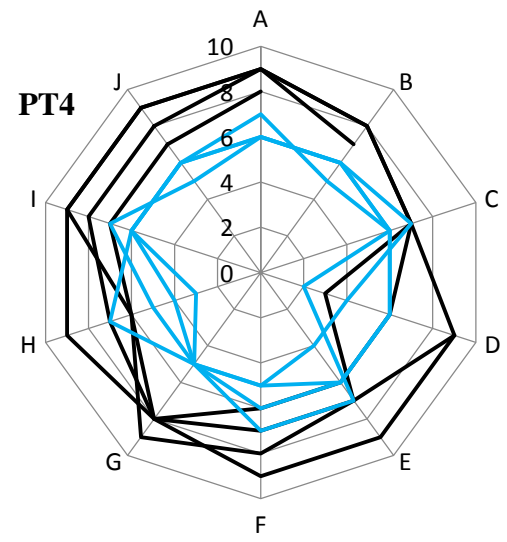
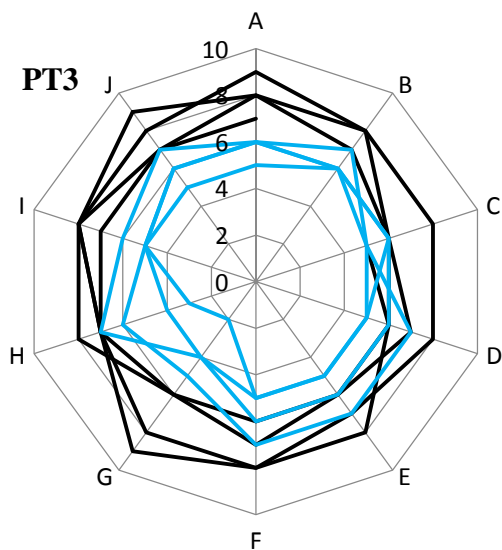
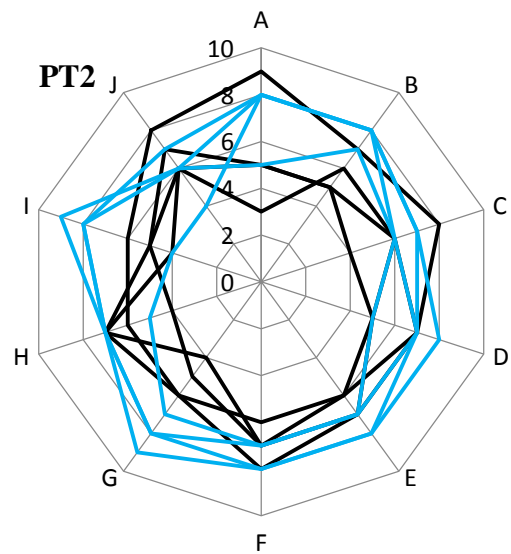
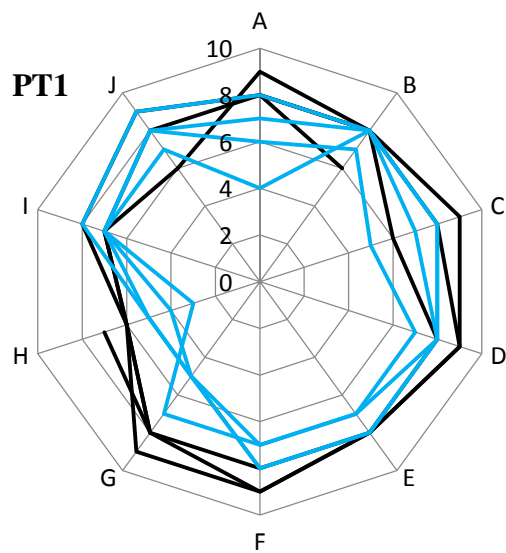


- ⑤ Generate personalised goal options within categories
- ⑥ Choose & refine option/s
- ⑦ Discuss an action plan
- ⑧ Identify & address barriers
- ⑨ Check RICK
- ⑩ Consider review, referral & support

Build Importance

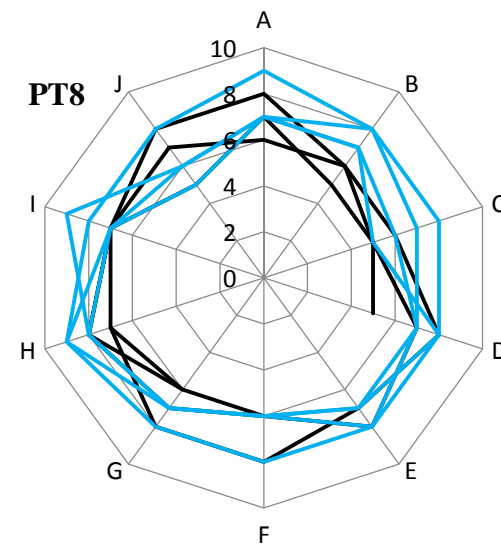
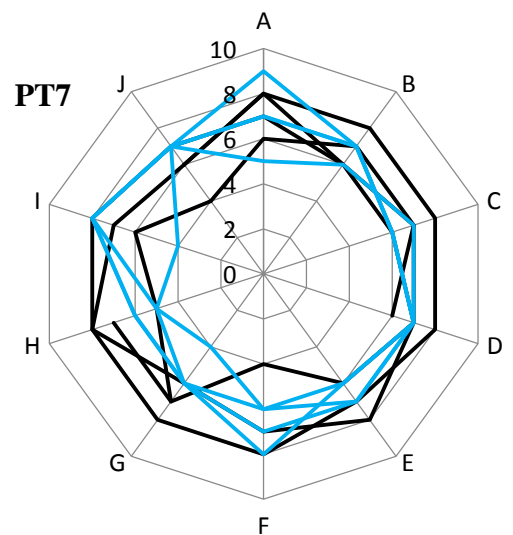
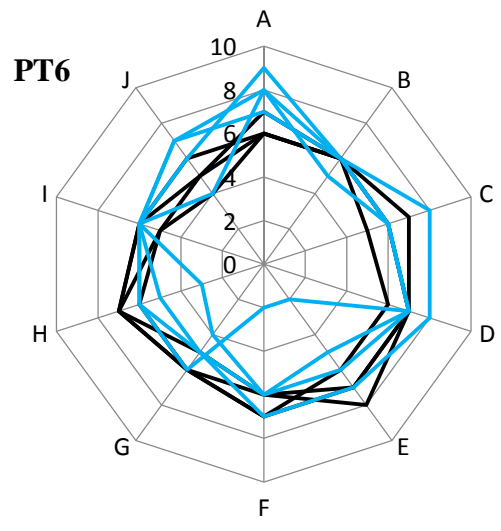
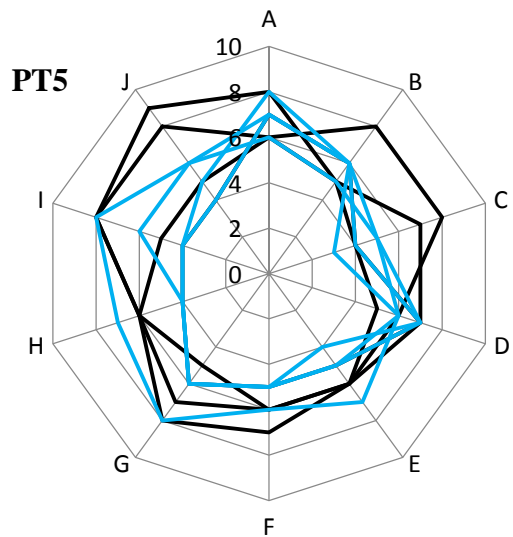
Build Confidence





— Training facilitator
 — Physiotherapist

- A: Using a person-centred approach that promotes a person’s choice and control
- B: Use call it as you see it principle to tactfully highlight contradictions in a person’s behaviour
- C: Address all four aspects of goal setting when discussing and setting goals with a person
- D: Give people permission to focus on one thing at a time, one step at a time, adding up over time
- E: Use the RICK principle to consider a person’s motivation for taking action
- F: Use the RICK principle to consider a person’s confidence in carrying out agreed tasks
- G: First ask a person for their input or permission before offering advice or asking for information
- H: Use the wait til 8 technique to allow people time to think and respond to questions
- I: Invite the client (or other person) to write any information or tasks that they need to remember later
- J: Encourage a trial and error approach when helping a person change their daily habits



— Training facilitator
 — Physiotherapist

- A: Using a person-centred approach that promotes a person's choice and control
- B: Use call it as you see it principle to tactfully highlight contradictions in a person's behaviour
- C: Address all four aspects of goal setting when discussing and setting goals with a person
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- I: Invite the client (or other person) to write any information or tasks that they need to remember later
- J: Encourage a trial and error approach when helping a person change their daily habits

