Introduction

Targeted exercise training has been shown to lead to improvements in walking for people with stroke when measured in a standardised way in a physiotherapy clinic (English and Hillier 2010). The benefits of physiotherapy interventions in neurological rehabilitation are based on the implicit assumption that improvements in physical capacity carry over automatically into changes in usual walking habits and that these improvements increase the ability to participate in meaningful activities – an important aim of physiotherapy practice (WCPT 2011). In fact there is limited carryover of these physical improvements into usual walking habits (Mudge et al 2009, States 2009). This is disappointing because for many people with neurological conditions increased physical activity is a key goal due to its significant psychological, physical and functional benefits (Lord et al 2004, Gordon 2004).

One possible explanation for this lack of carryover of benefit into usual walking is the absence of additional support to help change people’s activity habits or behaviour. A behaviour is generally considered to be an activity that is able to be observed (Atkinson et al 1996, p. 12). Usual walking behaviours include being able to walk far enough and fast enough in the real world to participate in meaningful activities. A systematic review of studies in healthy people clearly confirmed that health behaviours (such as walking habits) can be improved by techniques that focus on active involvement of the person in changing their own behaviour (Michie et al 2009). These behaviour change techniques may include goal setting, specific planning, or self-monitoring activities. Many of the techniques have a strong theoretical basis and have been described and studied extensively in health psychology (Michie et al 2011). Physiotherapists have successfully used these evidence-informed techniques as part of health coaching to improve physical activity for patients with cardiac disease (Reid et al 2011) and low back pain (Iles et al 2011). However, there have been few similar

What is already known on this topic: Health coaching involves techniques (such as goal setting and self monitoring) to facilitate active involvement of the patient in behaviour change. Health coaching has been used to improve physical activity in several patient groups but it has not been widely investigated in people undergoing neurological rehabilitation.

What this study adds: Physiotherapists and their patients in neurological rehabilitation both found that coaching helped the focus of rehabilitation to stay on the patient’s expressed needs. Patients wished to be more actively involved in rehabilitation and considered activity coaching acceptable. Physiotherapists had concerns about the feasibility of activity coaching in this setting, which may limit the efficacy of activity coaching, although some specific training for physiotherapists may help.
attempts to improve physical activity using behaviour change techniques for people with neurological conditions such as multiple sclerosis (Kayes 2011), and minor stroke or TIA (Gillham and Endacott 2010); this is despite their potential to support active engagement in the rehabilitation process, which has strong links with improved health outcomes such as health status (Harwood et al 2011) and mood (Smith et al 2008).

Health coaching is where ‘an interactive role is taken by a peer or professional to support a person to be an active participant in the management of their illness or injury’ (Lindner et al 2003, p. 177) and incorporates evidence-informed behaviour change techniques with a collaborative interaction style. Patient-centred care is a central tenet of best practice in rehabilitation (McPherson and Siegert 2007). A health coaching approach may be useful in neurological rehabilitation because the collaborative approach, which focuses on the patient’s perspective and emphasises shared decision-making, is an important characteristic of patient-centred care. One version of health coaching is where the health professional uses a 10-point framework underpinned by principles drawn from existing behaviour change theories to support change in health-related behaviour (Health Change Australia 2012). Activity coaching uses this framework but focuses primarily on supporting change in activity habits.

The research questions for this study were:
1. Does activity coaching add value to physiotherapy from the perspective of both physiotherapists and patients in neurological rehabilitation?
2. Is the use of activity coaching to promote walking and physical activity considered feasible by these physiotherapists and patients?

**Method**

**Design**

This study used descriptive qualitative methodology. This is an appropriate approach when first-hand knowledge of patients’ or professionals’ experiences with a particular topic is needed (Neergaard et al 2009). Semi-structured interviews with physiotherapists and their patients were used to gain insight into their perspectives of acceptability and feasibility.

**Participants**

Participants were physiotherapist-patient pairs recruited from two neurological rehabilitation outpatient clinics in a large metropolitan area in New Zealand. Physiotherapists were eligible if they were a registered physiotherapist and currently working in neurological rehabilitation. Patients were included if they had a non-progressive neurological condition, were currently receiving physiotherapy, and had a goal to improve walking. Purposeful sampling was used to achieve variability in patients in a range of key characteristics including age, diagnoses, gender, and ethnicity (Sandelowski 2000). If the physiotherapist wished to participate and had a patient who met the criteria, the patient was approached to see if they would be interested in participating. A researcher screened both the physiotherapist and their current patient for eligibility by telephone.

**Intervention**

The activity coaching intervention was delivered as an addition to routine physiotherapy care by a dedicated research physiotherapist (CS or SM), who had completed a two-day course in health coaching (Health Change Australia 2012). Using the principles of health coaching, a modified version of coaching was developed that focused primarily on improving physical activity, particularly walking behaviour. The coaching session was observed by the treating physiotherapist. Each session lasted one hour and there were two follow-up telephone calls. Details and content of the activity coaching intervention is provided in Box 1.

**Data collection**

Specific techniques used for behaviour change in the activity coaching sessions were recorded by the research physiotherapist using the taxonomy developed by Michie and colleagues (Michie et al 2011). Semi-structured interviews of the physiotherapists were completed by a researcher (NK) experienced in qualitative descriptive methodology. Questions for these interviews are presented in Box 2. These questions sought to explore the physiotherapists’ perspectives of what worked well and provided additional value, what didn’t work well and potential challenges to delivering the approach from their own perspective, and their perceptions of the patients’ perspectives. Patient interviews were conducted by a physiotherapist academic or research assistant experienced in qualitative interviews, who was not involved in providing the activity coaching intervention to the patient. For these interviews, questions explored what worked well, any added value of the program to their health and wellbeing, and anything they didn’t like or did not work well. Interviews lasted between 20 and 40 min, were audio recorded, and a denaturalised transcription was used (Oliver et al 2005).

**Data analysis**

During the data preparation phase, each transcript was read through several times by two researchers (CS, SM) to first get an idea of the whole of each interview and notes were taken of impressions and thoughts (Sandelowski 1995). A data reduction framework based on the interview guide was used to prepare data for analysis (Sandelowski 1995).

Data were analysed using conventional content analysis not only to identify themes of importance within and across the two participant groups, but also to look for any differences between experiences (Hsieh and Shannon 2005). Clusters of codes and categories were grouped to form core themes. A third researcher (NK) independently reviewed the codes as a form of member checking to ensure consistency of interpretation with identified themes and to ensure theme names adequately captured the data coded to that theme. This process was repeated twice using discussion to refine and reach consensus. Both researchers (CS, SM) kept a journal of critical reflections and discussed findings with other team members. They also undertook a process of critical reflection of the literature, which provided researcher triangulation and confirmation of broader generalisability of key issues identified (Mudge et al 2013, Neergaard et al 2009).
**Box 1. Activity coaching intervention**

<table>
<thead>
<tr>
<th>Underlying theoretical construct</th>
<th>Stages of coaching consultation</th>
<th>Purpose of each stage</th>
<th>Example of possible open ended questions from model scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Introduction: Set scene and explain your role</td>
<td>Explain shared decision-making model and promote collaborative interaction</td>
<td>While I am an expert in exercising to improve physical abilities, you are the expert in what it is like for you to live with a stroke … I would like to support you to help you develop a plan …</td>
</tr>
<tr>
<td></td>
<td>Step 1: Identify health issues and lifestyle change options</td>
<td>Identify general goals and generate possibilities</td>
<td>Tell me all the major issues that are impacting on your walking abilities and activity levels …</td>
</tr>
<tr>
<td></td>
<td>Step 2: Set an agenda</td>
<td>Provide focus to consultation in collaborative way</td>
<td>It can be overwhelming to work on too many things at once. Is there something that would make the most positive difference to you and you are ready to work on today?</td>
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<tr>
<td></td>
<td>Step 3: Explore motivation (Ask about readiness, importance and confidence)</td>
<td>Gain insight into current level of motivation and perception of ability to achieve general goal(s)</td>
<td>How important is it for you on a scale of 1 to 10 to work on this goal given everything else in your life right now? How confident are you that you can achieve this goal given everything else in your life right now?</td>
</tr>
<tr>
<td></td>
<td>Task analysis (if needed)</td>
<td>Provide knowledge and education of specific requirements of identified task</td>
<td>There are a few essential requirements to be able to … Do any of these ring true to you? Is it something else? Which one of these issues would you like to start with?</td>
</tr>
<tr>
<td>Decision</td>
<td>Step 4: Patient makes a decision</td>
<td>Protect autonomy and minimise resistance by tailoring pace of session to patient preferences</td>
<td>Are you happy to proceed to the next stage of setting a specific goal?</td>
</tr>
<tr>
<td>Planning</td>
<td>Step 5: Generate personal goal options</td>
<td>Create ‘cognitive flexibility’ by increasing awareness of different possibilities</td>
<td>What are you currently doing regarding this goal? What would you like to achieve? What haven’t you tried before? What are all your options? Which options do you think might work for you now?</td>
</tr>
<tr>
<td></td>
<td>Step 6: Choose and refine an option</td>
<td>Select personal goal most likely to provide benefit</td>
<td>Which option do you think might work for you now? Are you ready to set a specific goal now?</td>
</tr>
<tr>
<td></td>
<td>Step 7: Create an action plan</td>
<td>Create vision of possibilities and specific outcomes to increase likelihood of outcome</td>
<td>A specific goal needs to have a ‘what’, ‘how’ and a ‘when’. Shall we start with the ‘what’? So what do you think you can do?</td>
</tr>
<tr>
<td>Build self-efficacy (confidence) and self-regulatory skills</td>
<td>Step 8: Identify and address barriers</td>
<td>Identify barriers and develop plan to facilitate achievement of goal</td>
<td>What might get in the way of you doing these things? What could you say to yourself that would give you the most chance of success?</td>
</tr>
<tr>
<td></td>
<td>Step 9: Ask about readiness, importance and confidence again</td>
<td>Review confidence to determine likely effectiveness of action plan</td>
<td>How confident are you on a scale of 1 to 10 that you will be able to carry out your action plan?</td>
</tr>
<tr>
<td></td>
<td>Step 10: Consider Review &amp; Referral Plan</td>
<td>Negotiate follow up to provide opportunities for feedback/ monitoring</td>
<td></td>
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</tbody>
</table>

*Based on 10 principles outlined by Health Change Australia (2012) and modified to focus on activity*
Results

Characteristics of the participants

Five pairs of physiotherapists and patients were recruited. Of the five patients there was a range of ages (20–80 yr), two men and three women, and diagnoses encompassed stroke (n = 2), spinal cord injury (n = 2), and cerebral palsy. Two of the patients self-identified as Māori (the indigenous population of New Zealand). The physiotherapists were all female, aged between 25 and 45 years, New Zealand European, and had between 5 and 16 years of experience working in neurological rehabilitation. This lack of ethnic diversity in the physiotherapists reflects the demographic make-up of the physiotherapy profession in New Zealand. Three of the five physiotherapists had completed postgraduate qualifications in rehabilitation.

Activity coaching

The types of behaviour change techniques used in the activity coaching sessions are described in Box 3. The techniques were focused on practical steps such as goal setting and negotiation, goal pursuit, feedback and encouragement.

In general, both physiotherapists and patients responded positively to the activity coaching approach. In particular, both reported the structured framework provided benefits to both physiotherapists and patients. It provided a way for the physiotherapists to better understand the patients’ perspective by stepping back; gaining insight into the patients’ point of view, and promoting open discussion of perceived barriers. In turn, this appeared to result in more active and involved patients. Both patients and physiotherapists valued this greater degree of involvement. At times acceptability to the physiotherapists was limited by a sense of concern, in contrast to the patients who did not raise any issue of concern. These findings are discussed in more depth below, using quotes to illustrate the key points.

Themes from physiotherapist interviews

Formalising a process. The structured framework provided by the coaching process was perceived as useful by the physiotherapists in that it provided a framework to guide goal setting and goal pursuit in rehabilitation. The focus on attainable stages and explicit discussion of barriers to achieving a goal was especially valued.

It was very good to formalise … like when he felt comfortable and … what some of the barriers were. (Physiotherapist A, 16 years’ experience)

But I think adding in the extra things like getting the patient’s perspective, getting them to break down the barriers, or explain what their barriers are … those aspects have definitely added value. (Physiotherapist B, 5 years’ experience)

I think it [is] really helpful particularly for generating practical steps towards goal attainment because I think that can be really challenging for patients particularly with chronic and long-term health conditions. (Physiotherapist E, 7 years’ experience)

Taking a step back. The coaching process allowed the treating physiotherapist to take a new look from a different perspective. This shift of focus allowed some therapists to have a broader view. For other therapists the activity coaching session created an opportunity to refocus their attention and revisit current therapy goals and strategies.

… so it’s quite nice to sometimes step back and just look at the overall picture to make sure that we are working on the right things. (Physiotherapist B, 5 years’ experience)

It gave [the patient] something to go away with, so it was like, ‘So this is what your goal is … this is how we can do it. Now you really need to sit back and see if that’s what you want to do.’ (Physiotherapist D, 5 years’ experience)

Opening my eyes. The process created insight for some of the physiotherapists. This greater awareness of the patient’s perspective was often accompanied by a sense of surprise and a greater awareness that their perspective may differ from their patients.

Doing the session opened my eyes … to the amount or the lack of things this patient was doing … which gave you insight into what they thought and their perception were … and their perception was quite different to what I thought it would be. (Physiotherapist B, 5 years’ experience)

It’s a really great tool to have to be able to sit down and really get what the patient wants because sometimes you can be on two different levels in terms of what you think and what they think. (Physiotherapist D, 5 years’ experience)

Facilitating active involvement. Physiotherapists generally valued the way that the coaching helped to shift the focus of the rehabilitation process toward the patients’ expressed needs. Therapists articulated varying degrees of recognition about whose interests were usually at the centre of the therapeutic relationship, and recognition that the activity coaching approach helped to encourage greater engagement and ownership for the patient in the rehabilitation process.

I can only talk for me … but I think that generally as therapists we quite like to problem solve for our client. There were silences and there were pauses, which did throw it back on the client. (Physiotherapist A, 16 years’ experience)

Making really clear that it is their life and their project and they’re working with the therapist to do that, they’re not ‘being done to’ by the therapist. (Physiotherapist E, 7 years’ experience)

Accounting for change down the track. The coaching process was seen to have potential value as part of ongoing negotiation throughout the rehabilitation process and not just at the outset.

… but often down the track a little bit it would be good to have something that you kind of put in place because priorities for people change. (Physiotherapist D, 5 years’ experience)

Experiencing discomfort. A notable finding was that aspects of the coaching process did cause discomfort to the physiotherapists. At times a sense of emotional tension was expressed especially if the patients were perceived to be complex or unrealistic. It is interesting to note that these fears were primarily about potential issues rather
Box 4. Examples of contrasting perspectives within physiotherapist and patient pairs.

<table>
<thead>
<tr>
<th>Physiotherapist description of the patient’s perspective</th>
<th>Patient’s perspective</th>
</tr>
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<tbody>
<tr>
<td>Actually to be honest, I was a bit concerned about how my client would actually respond to it. He has a lot of social things going on in his life... that aren’t so good... whether it unearthed stuff. (Physiotherapist A)</td>
<td>I liked how it helped me to motivate myself... The whole thing was pretty cool. (Patient A)</td>
</tr>
<tr>
<td>[This] was one of those situations where I just couldn’t see it fitting in and working... so it made the whole process quite difficult. (Physiotherapist D)</td>
<td>She was positive and on my side... She seemed to get to the heart of the matter... She seemed to get more on board with fixing my problem. (Patient D)</td>
</tr>
<tr>
<td>I don’t know if it would have added a whole lot [of value]. (Physiotherapist F)</td>
<td>The goals we have set have helped generally in all areas of the things I do, not just in physio. (Patient F)</td>
</tr>
</tbody>
</table>

than actual issues, and were related to the physiotherapist perceptions of the patients’ vulnerability. There was also a sense of discomfort at the possibility of encountering emotional distress and they perceived this as being potentially harmful.

I was a bit concerned about how my client would actually respond for the simple reason that he has a lot of social things going on in his life, and I just wondered... whether it unearthed stuff... He said he was okay, so maybe it was more my discomfort as far as knowing what is going on at home. (Physiotherapist A, 16 years’ experience)

For me to sit there and listen to her talking about it in a way that was, ‘Is this actually realistic?’ and it was really hard. (Physiotherapist D, 5 years’ experience)

If they have an unsupportive partner or addictions or you know, difficult family relations, there’s huge complexity, which this can seem a little simplistic in the face of all of that, if it’s not dealt with very carefully. (Physiotherapist E, 7 years’ experience)

Themes from patient interviews

Focusing on what is important. For the participants, taking part in the process also allowed them to refocus on what was important to them, which was often accompanied by an increase in motivation to continue to address their chosen rehabilitation goals.

She seemed to get to the heart of the matter. She seemed to know that I badly wanted to walk and took steps to encourage that. I felt that she was really interested in achieving my goal. (Patient D)

It definitely helped with my motivation and it identified some issues with the way I run my life and it helped me to improve those. (Patient F)

... just thinking about the outcome really... the long term picture always... that was my main focus. (Patient F)

Putting it into action. In a similar way to the physiotherapists, taking part in the coaching session meant that the patients in the study were able to be a more active participant. They described being more intentional in pursuing their goals, taking more responsibility for achieving this, and were able to articulate more coping strategies to address unexpected barriers that occurred. They were also more likely to revisit and reuse strategies that had been helpful in the past, such as the use of diaries and planning when to exercise.

And it’s more associated with what I do, rather than what other people do. So I decided what the goal was and I decided everything and then I had to do everything. (Patient F)

I just scheduled in my exercises in my diary... so I just added that into my weekly routine (Patient A)

Tracking progress. The patients also identified that the intervention was not long enough, and that ongoing support and tracking of progress could make the process more helpful.

If it was to go on for longer, like maybe over a whole year and I had someone there to support me then I would be able to notice a change. (Patient A)

Yeah, a track of your progress and maybe like a plan: these are the questions that we’re going to ask ourselves as to whether or not we’ve achieved the goal. (Patient F)

In many ways the themes were similar between the two groups and overall both physiotherapists and patients found many aspects of the process helpful. The coaching process helped the focus of rehabilitation to stay on the patients’ expressed needs. This resulted in interventions being more in line with expressed desires. The physiotherapists described this focus resulting in a fresh perspective; for the patients, this focus on their expressed needs lead to greater sense of involvement. However the most striking difference relates to the emotional responses which were often in contrast to the physiotherapists’ own responses. Some examples of these contrasting perspectives are presented in Box 4.

Discussion

Overall the activity coaching approach was considered to be useful and acceptable to these rehabilitation patients. This framework was reported to promote interactions between physiotherapists and patients and gave greater insight for the physiotherapists into patients’ expressed needs and preferences. The process was also perceived to increase the active involvement of patients in the rehabilitation process and promote self-responsibility while also providing...
emotional support. Activity coaching therefore does appear to have the potential to support patient-centred practice and the development of the therapist-patient relationship, which has been linked to better outcomes for rehabilitation patients (Hall et al 2010, Pinto et al 2012) and improved satisfaction with care (Oliveira et al 2012).

An unexpected finding from this study was the emotional discomfort experienced by physiotherapists. The historical school of thought underlying physiotherapy practice primarily is a ‘body as a machine’ or biomechanical discourse (Nicholls and Gibson 2010). A potential cause of the discomfort emerging from the historic separation of the body and mind is that any aspects of practice that move into the realm of emotions, feelings, and thinking may be considered (even at a subconscious level) to be outside the scope of physiotherapy. Therefore it is possible that the concern expressed by the physiotherapists is, in part, due to their own discomfort from feeling ill-equipped to deal with challenging issues such as emotional distress or a sense of inadequacy in addressing rehabilitation goals considered to be ‘unrealistic’ and therefore unachievable (Jones et al 2012a, Morris and Williams 2009). A second possibility may be a desire to protect patients from harm, much in the same way a protective parent worries about the potential for pain and distress for their child. Paternalism is when a ‘professional makes a decision based on what she finds to be in the patient’s best interest’ (Sandman and Munthe, 2009, p. 61). The limits of a paternalistic mind-set has been well recognised in medicine yet it has only recently been described and remains largely unexplored in physiotherapy practice in general (Jorgensen 2000, Eisenberg 2012) and neurological rehabilitation specifically (Peoples et al 2011). Managing this process with people who are vulnerable due to cognitive or social limitations may result in understandable concern.

Acting in a collaborative way requires recognition of patients’ expertise and a willingness to seek, listen and respond to patients’ perspectives (Cott 2004). Our study found that although patients have a clear desire to be more actively involved in rehabilitation, significant barriers for both therapists and patients can prevent this occurring in practice. While our study had only a small number of participants, the findings are consistent with several reviews in this area, which identify that professional barriers are a significant limiting factor to patient-centred practice and the use of behavioral interventions (Mudge et al 2013, Peoples et al 2011, Rosewilliam et al 2011).

It is likely that explicit strategies and training will be necessary to assist health professionals to develop new ways of working (eg, Bright et al 2012, Jones et al 2012). A useful approach may be the conscious adoption of a coaching role rather than the expert role more commonly adopted by physiotherapists (see Frates et al 2011 for a helpful distinction). A further useful strategy is the process of critical reflection to identify influences on personal clinical practice. Training in communication skills to negotiate shared decision-making and cope with situations that potentially include distressing content may be helpful. Such skills may include reflective listening, motivational interviewing and other micro skills to provide emotional support. Finally ongoing research and development of the application of behaviour change strategies to patients with impaired self-awareness will be needed before principles of patient-centred practice can be effectively incorporated into clinical practice and carefully evaluated for their potential health benefits. In conclusion further research is needed to understand physiotherapists’ concerns and strategies to address these issues before coaching using behavioural change interventions (including goal setting) could be fully acceptable and practically useful to physiotherapists.

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**References**


Research


