Physiotherapy informed by Acceptance and Commitment Therapy for people with chronic low back pain: a randomised controlled trial

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Chronic low back pain (LBP): greatest cause of years lived with disability worldwide

Numerous interventions: small-moderate effects, short-medium term duration, none clearly superior (Artus et al 2012)

Psychologically-informed physiotherapy advocated for people with persistent, disabling pain (Foster and Delitto 2011)

Theoretically attractive: targets important disability predictors

Clinical outcomes not always markedly better; may improve self-management (Hay et al 2005; Critchley et al 2007; Lamb et al 2010, 2011)
Acceptance and Commitment Therapy (ACT)

**ACT**: cognitive-behavioural therapy longer-term effects in persistent pain  
(Hann & McCracken 2014)

Promotes **psychological flexibility**, not symptom reduction

- Experienced-based, minimally didactic
- Accepts emotions, using as information
- Related to **mindfulness**

Appropriate for physiotherapists as incorporates **goal setting** and **improving function** alongside pain

OBI trial of ACT in cLBP concluded: train physiotherapists  
(Pincus et al 2015)

Introducing ACT to a physiotherapy-led pain rehabilitation programme: appropriate, with caveats  
(Barker et al 2016)
Brief physiotherapy intervention incorporating aspects of ACT, aiming to help people self-manage their persistent low back pain.

Two one hour sessions in private room + 20 minute follow-up phone-call

- Assessment (including physical examination), feedback, rationale
- **Shifting focus** towards function away from struggling with pain
- **Values-based goal setting**, anticipating and addressing barriers
- **Psychological skills** to facilitate self-management
- **Physiotherapy exercises** but no passive interventions

Delivered by band 6-8 physiotherapist following two days training

Monthly supervision and on-going support

Feasible, acceptable and promising effect-size (Critchley et al 2015)
Design and objectives

Phase II assessor-blind multi-centre two-armed parallel group RCT comparing PACT with usual physiotherapy

To evaluate the efficacy of PACT on functioning and other patient-centred outcomes, ACT process variables, and NHS costs

Secondary studies explored patient’s and physiotherapist’s experiences of PACT and evaluated treatment fidelity: results presented elsewhere

BMJ Open

Physiotherapy informed by Acceptance and Commitment Therapy (PACT): protocol for a randomised controlled trial of PACT versus usual physiotherapy care for adults with chronic low back pain

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ABSTRACT

Introduction: Chronic low back pain (CLBP) is a common condition and source of significant suffering, disability and healthcare costs. Current physiotherapy treatment is moderately effective. Combining theory-based psychological methods with physiotherapy could improve outcomes for people with CLBP. The primary aim of this randomised controlled trial (RCT) is to evaluate the efficacy of Physiotherapy informed by Acceptance and Commitment Therapy (PACT) on functioning in patients with CLBP.

Methods and analysis: The PACT trial is a two-armed, parallel-group, multicentre RCT to assess the efficacy of PACT in comparison with usual physiotherapy care (UC). 240 patients referred to physiotherapy with non-specific chronic low back pain will be randomly assigned to receive PACT or UC, with the RCT allocation concealed by a computer-generated randomisation schedule. The primary outcome measured is the change in the Roland Morris Disability Questionnaire score, with secondary outcomes measured to assess the effect of PACT on quality of life and cost-effectiveness.

Strengths and limitations of this study

- The physiotherapy informed by Acceptance and Commitment Therapy (PACT) trial will be the first randomised controlled trial to test the efficacy of a physiotherapist-led ACT-informed intervention for chronic low back pain (CLBP) against standard physiotherapy.
- The PACT trial will assess the feasibility of training physiotherapists to deliver a novel psychologically informed physiotherapy intervention.
- Theory-based processes of change consistent with the psychological flexibility model will be evaluated, providing evidence for the mechanisms underpinning observed outcomes.

(Godfrey et al 2016)
Participants: recruitment and retention

People with >3/12 non-specific LBP referred for physiotherapy

3 NHS trusts: 6 public hospital physiotherapy departments London & SE England

248 randomised

219 (88.3%) data analysis
Results: demographic & NHS costs/resource use

- 59% female,
- 58.9% white, 25.4% black, 7.5% Asian, 5.6% mixed
- Age 47.9 (14.3) years
- 45% working full-time, 24% part-time, 14% unemployed, 17% retired

Total NHS resource use very comparable between two groups:
- **PACT** arm costs = £19,776 or **£193.88 per patient**
  (+additional one-off training cost of £11,958)
- **Usual care** costs = £20,286 or **£220.50 per patient**

Marked less physiotherapy resource use in PACT:
- Mean total PACT treatment = 1 hour and 59 minutes
- Mean total UC treatment = 2 hours and 59 minutes
Results

Disability
Pain
Patient specific function
Work & social adjustment
Life satisfaction
Depressive symptoms
Anxiety symptoms
Pain acceptance
Behavioural flexibility
Self-efficacy
Global improvement
Outcome satisfaction
Treatment credibility
SF12 mental
SF12 physical

The PACT Study
Results: self-reported functioning [RMDQ]

- Disability
- Pain
- Patient specific function
- Work & social adjustment
- Life satisfaction
- Depressive symptoms
- Anxiety symptoms
- Pain acceptance
- Behavioural flexibility
- Self-efficacy
- Global improvement
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- Treatment credibility
- SF12 mental
- SF12 physical

The PACT Study
### Results: self-reported functioning [RMDQ]

<table>
<thead>
<tr>
<th>Time (months)</th>
<th>Usual Care</th>
<th>PACT</th>
<th>Adjusted mean difference</th>
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<tr>
<td></td>
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<td>SD</td>
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Results: ACT process variables [CPAQ-8, CAQ-8]

Pain acceptance
Behavioural flexibility

Disability
Pain
Patient specific function
Work & social adjustment
Life satisfaction
Depressive symptoms
Anxiety symptoms

3 months
12 months

Standardised mean difference
Results: satisfaction and treatment credibility

Disability
Pain
Patient specific function
Work & social adjustment
Life satisfaction
Depressive symptoms
Anxiety symptoms
Pain acceptance
Behavioural flexibility
Self-efficacy
Global improvement
Outcome satisfaction
Treatment credibility
SF12 mental
SF12 physical

The PACT Study

Standardised mean difference

3 months
12 months
Conclusions and future directions

First to test efficacy of ACT-informed physiotherapy for people with cLBP

PACT promising but…

Process variables did not change:
  • more training in ACT needed?
  • increase duration or refine intervention?

Benefits not maintained beyond initial 3 months:
  • booster sessions?
  • on-line patient resources?
  • select patients?
Implementation
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