Psychological Flexibility and Chronic Pain: Time for a Revolution?

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King’s College London & INPUT Pain Management Unit, Guy’s and St Thomas’ NHSFT, London
Outline

• Review developments in broadly CBT-based approaches to chronic pain.
• Point to challenges to meet, and changes needed.
• Discuss how a Psychological Flexibility Model may carry the seeds for this change.
We’re Biased
Relief on the inside
Life on the outside

A first-line prescription therapy for adults

- NEW! Powerful pain relief in Acute Pain and Primary Dysmenorrhea
- Powerful pain relief in OA and RA
- Real-life improvement in functional status as measured by WOMAC* in OA patients and APS† Measure in patients with postoperative acute pain††

CELEBREX is contraindicated in patients with known hypersensitivity to celecoxib; in patients who have demonstrated allergic-type reactions to sulfonamides; and in patients who have experienced asthma, urticaria, or allergic-type reactions after taking aspirin or other NSAIDs.

Most common side effects were dyspepsia (8.8% vs 6.2% for placebo), diarrhea (5.6% vs 3.8% for placebo), and abdominal pain (4.1% vs 2.8% for placebo), and were generally mild to moderate.

CELEBREX should be used during pregnancy only if the potential benefit outweighs the potential risk to the fetus. CELEBREX should be avoided during late pregnancy.

* The Western Ontario and McMaster Universities Osteoarthritis Index
† American Pain Society
†† Please see brief summary of prescribing information and references on next page.
We’re Keen Problem-Solvers
Impossible Puzzle

[Count the black dots!]

Psychological therapies for the management of chronic pain (excluding headache) in adults (Review)

Williams ACDC, Eccleston C, Morley S

THE COCHRANE COLLABORATION

This is a reprint of a Cochrane review prepared and maintained by The Cochrane Collaboration and published in The Cochrane Library 2012, Issue 11

http://www.thecochranelibrary.com
Summary

• “Benefits of CBT emerged almost entirely from comparisons with treatment as usual/waiting list, not with active controls.”

• “CBT
  – … has weak effects in improving pain…”
  – … has small effects on disability…”
  – … is effective in altering mood and catastrophising…”

  – … is a useful approach to the management of chronic pain.”
• “There is no need for more general RCTs reporting group means…”
• “… different types of studies and analyses are needed to identify which components of CBT work for which type of patient on which outcome/s, and to try to understand why.”
Cognitive-behavioral therapy for persistent pain: Does adherence after treatment affect outcome?

Charlotte Curran a, Amanda C. de C. Williams a,*, Henry W.W. Potts b

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b Centre for Health Informatics and Multiprofessional Education (CHIME), University College London, Archway Campus Highgate Hill, London N19 5LW, UK

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ABSTRACT

It is a tenet of cognitive behavioral treatment of persistent pain problems that ex-patients should adhere to treatment methods over the longer term, in order to maintain and to extend treatment gains. However, no research has quantified the causal influence of adherence on short-term outcome in this field. The aims of this study are to assess determinants of adherence to treatment recommendations in several domains, and to examine the extent to which cognitive and behavioral adherence predicts better outcome of cognitive behavioral treatment for persistent pain. Longitudinal data from a sample of 2345 persistent pain patients who attended a multicomponent treatment programme were subjected to structural equation modeling. Adherence emerged as a mediating factor linking post-treatment and follow-up treatment outcome, but contributed only 3% unique variance to follow-up outcomes. Combined end-of-treatment outcomes and adherence factors accounted for 72% of the variance in outcome at one-month follow-up. Notwithstanding shortcomings in the measurement of adherence, these findings question the emphasis normally given to adherence in the maintenance of behavioral and cognitive change, and clinical implications are discussed.

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Method

- N = 2,345 people attending treatment for chronic pain.
- Measures of outcome administered pre-, post, and 1 month follow-up.
- Measures of adherence to treatment methods measured at 1 month follow-up.
Results

- Adherence to pacing, thought challenging, stretching, and exercise had very small relations with outcome variables.

- Variance in wellbeing at follow-up accounted for by adherence factors ranged from 1 to 2%.
“If taken at face value, the findings suggest that both theory and practice of recommending adherence to treatment methods require re-examination if not overhaul.” (p 187)
Key Variables in CBT

Depression  Distraction
Coping  Catastrophizing
Self-efficacy
Beliefs  Anxiety
Self-management
Key Variables in CBT

- Interruption
- Depression
- Coping
- Anger
- Neuroticism
- Health beliefs
- Distraction
- Pacing
- Catastrophizing
- Endurance
- Self-efficacy
- Anxiety
- Beliefs
- Hopelessness
- Self-management
Key Variables in CBT

- Spouse responses
- Interruption
- Depression
- Coping
- Catastrophizing
- Lack of control
- Neuroticism
- Locus of control
- Activity cycling
- Misdirected problem solving
- Helplessness
- Self-management
- Self-efficacy
- Anxiety
- Beliefs
- Health beliefs
- Distraction
- Pacing
- Endurance
- Hypervigilance
- Fear-avoidance
- Hopelessness
- Mental defeat
- Stop rules
Key Methods

• Education and information.
• Cognitive therapy.
• Activity Management.
• Relaxation.
• (Graded Exposure).
Challenges Ahead for Treatment of Chronic Pain

• Effect sizes not large and general enough.
• Active treatment processes remain obscure.
• The foundation of current CBT is too inclusive, and unclear in its strategic assumptions.
ACT

- A form of cognitive behavioral therapy with the following features:
  - Focuses on behavior change
  - Includes a primary process called psychological flexibility
  - Works both inside and outside literal language
  - Relies heavily on experiential exercises and metaphorical or paradoxical uses of language
  - Emphasizes individual analysis and relationship
  - Is emotionally intensive
  - Includes a particular therapeutic stance
  - Follows a philosophy called functional contextualism
  - Has a direct association with a program of basic behavioral science into what is called “Relational Frame Theory”
The Psychological Flexibility Model of Psychopathology

- Dominance of the Conceptualized Past and Feared Future
- Lack of Values Clarity
- Inaction, Impulsivity, or Avoidant Persistence
- Attachment to the Conceptualized Self
- Cognitive Fusion
- Experiential Avoidance
The Problem of Experiential Avoidance

- The process of deliberate control contradicts the outcome ("don’t think").
- Avoidance is possible but accomplishing it has costs (abuse -> avoid relationships).
- The event is not changeable at all (loss & grief).
- The change effort contradicts the goal (try hard to be spontaneous).
Treatment Processes of Psychological Flexibility

- Contact with the Present Moment
- Values
- Committed Action
- Self as Context
- Cognitive Defusion
- Acceptance

Psychological Flexibility

Mindfulness
Treatment Processes of Psychological Flexibility

Contact with the Present Moment

Acceptance

Values

Cognitive Defusion

Committed Action

Self as Context
Treatment Processes of Psychological Flexibility

Acceptance

Cognitive Defusion

Values

Committed Action
Psychological Flexibility

Treatment Processes of Psychological Flexibility
“Psychological Inflexibility”

A process based in interactions of language and cognition with direct experiences that produces an inability to persist in, or change, a behavior pattern in the service of long term goals or values.

The Heart of ACT

• Unit of analysis is the whole act in context.
• “Truth” is determined by goals and success.
• ACT is a-ontological.
  – This allows the ACT therapist to work flexibly in creating change without seeking to prove whether unhelpful thoughts are correct or not, or struggling over who is “right.”
Investigating the Similarities and Differences Between Practitioners of Second- and Third-Wave Cognitive-Behavioral Therapies

Lily A. Brown, Brandon A. Gaudiano, and Ivan W. Miller
Internet-based Survey of “Second” (n = 55) and “Third” (n = 33) Wave CBT Practitioners

• Second wavers reported greater use of cognitive restructuring and relaxation.

• Third wavers reported greater use of mindfulness/acceptance and exposure-based methods and used a wider total number methods.

• No differences in attitudes toward evidence-based practice, alternative treatments, or in rational versus intuitive thinking style.
## RCTs of ACT in Physical Health

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<thead>
<tr>
<th>Problem Area</th>
<th>Authors</th>
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<tr>
<td>Pain and stress</td>
<td>Dahl et al., 2004</td>
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<tr>
<td>Smoking</td>
<td>Gifford et al., 2004</td>
</tr>
<tr>
<td>Drug refractory epilepsy</td>
<td>Lundgren et al., 2006</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Gregg et al., 2007</td>
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<tr>
<td>Chronic pain</td>
<td>Wicksell et al., 2008</td>
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<tr>
<td></td>
<td>Wetherell et al. 2011</td>
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<tr>
<td></td>
<td>Thorsell et al., 2011</td>
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<tr>
<td></td>
<td>Wicksell et al. (online)</td>
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<tr>
<td>Pediatric chronic pain</td>
<td>Wicksell et al., 2009</td>
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</table>
### RCTs ACT- Continued

<table>
<thead>
<tr>
<th>Condition</th>
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<tr>
<td>Obesity</td>
<td>Lillis et al., 2009</td>
</tr>
<tr>
<td>Promotion of physical activity</td>
<td>Butryn et al., 2011</td>
</tr>
<tr>
<td>Multiple sclerosis</td>
<td>Nordin et al., 2012</td>
</tr>
<tr>
<td>Tinnitus</td>
<td>Zetterqvist Westin et al., 2011</td>
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<td></td>
<td>Hesser et al., 2012</td>
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<tr>
<td>Cancer</td>
<td>Rost et al., 2012</td>
</tr>
<tr>
<td>Headache</td>
<td>Dindo et al., 2012</td>
</tr>
<tr>
<td></td>
<td>Mo’tamedi et al, 2012</td>
</tr>
</tbody>
</table>
ACT for Chronic Pain (N = 13 Studies)

- Dahl et al. 2004 *
- McCracken et al. 2005
- McCracken et al. 2007
- Vowles & McCracken, 2008
- Wicksell et al. 2008 *
- Vowles et al. 2009
- Johnston et al. 2010
- Wetherell et al. 2011 *
- Thorsell et al. 2011 *
- McCracken & Gutierrez-Martinez, 2011
- McCracken & Jones, 2012
- Wicksell et al., epub *
- Burhman et al., epub *

* = RCT
Chronic or Persistent Pain in General
(including numerous conditions)

Description
There are numerous sources of chronic or persistent pain such as fibromyalgia, headache, back problems, and rheumatological conditions among many others. Some treatments are being examined as interventions for chronic or persistent pain regardless of the source of the pain. Research on such treatments will be presented on this page.

Psychological Treatments
Acceptance and Commitment Therapy for Chronic Pain
(Strong Research Support)

http://www.div12.org/PsychologicalTreatments/disorders/pain_general.php
# Measures: Psychological Flexibility

<table>
<thead>
<tr>
<th>Process</th>
<th>Measure</th>
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<tr>
<td>Acceptance</td>
<td>Acceptance and Action Questionnaire-II</td>
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<tr>
<td></td>
<td>Chronic Pain Acceptance Questionnaire</td>
</tr>
<tr>
<td>Cognitive defusion</td>
<td>Experiences Questionnaire</td>
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<td></td>
<td>Cognitive Fusion Questionnaire</td>
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<tr>
<td></td>
<td>Drexel Defusion Scale</td>
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<td>Contact with the present</td>
<td>Mindful Attention Awareness Scale</td>
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<td></td>
<td>(most mindfulness measures)</td>
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<tr>
<td>Self-as-observer</td>
<td>Experiences Questionnaire</td>
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<tr>
<td>Values-based action</td>
<td>Valued Living Question</td>
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<tr>
<td></td>
<td>Chronic Pain Values Inventory</td>
</tr>
<tr>
<td></td>
<td>Bulls Eye</td>
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<tr>
<td>Committed action</td>
<td></td>
</tr>
</tbody>
</table>
Creating a Measure

• N = 216 consecutive adults with chronic pain at INPUT.
• 62.5% women.
• Mean age 47.5
• 12.6 years of education.
• Primary pain 88.3% back.
• Mdn pain duration 104 months.
INPUT Measures

- SF-36
- Patient Health Questionnaire (PHQ-9)
- EQ-5D-5L
- Chronic Pain Acceptance Questionnaire (CPAQ)
- Acceptance and Action Questionnaire (AAQ-II)
- Experiences Questionnaire (EQ)
- Cognitive Fusion Questionnaire (CFQ)
- Committed Action Questionnaire (CAQ)
- Health care visits
- Medication
- Work status
Committed Action Questionnaire

Directions: Below you will find a list of statements. Please rate the truth of each statement as it applies to you by circling a number. Use the following rating scale to make your choices. For instance, if you believe a statement is “Always True”, you would circle the 6 next to that statement.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>0</td>
<td>Never True</td>
<td>1</td>
<td>Very Rarely True</td>
<td>2</td>
<td>Seldom True</td>
<td>3</td>
<td>Sometimes True</td>
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<tr>
<td>1</td>
<td>I am able to persist with a course of action after experiencing difficulties</td>
<td></td>
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<tr>
<td>2</td>
<td>When I fail in reaching a goal, I can change how I approach it</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>If I experience pain from something I do, I will avoid it no matter what it costs me</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>I can remain committed to my goals even when there are times that I fail to reach them</td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>When a goal is difficult to reach, I am able to take small steps to reach it</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>I act impulsively when I feel under pressure</td>
<td></td>
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<tr>
<td>7</td>
<td>I prefer to change how I approach a goal rather than quit</td>
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<tr>
<td>8</td>
<td>I am able to follow my long terms plans including times when progress is slow</td>
<td></td>
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<tr>
<td>9</td>
<td>When I fail to achieve what I want to do, I make a point to never do that again</td>
<td></td>
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Factor Analysis of CAQ
### Correlations Including the Committed Action Questionnaire

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<tr>
<th></th>
<th>Pain Acceptance</th>
<th>Pain (0-10)</th>
<th>Depression (PHQ-9)</th>
<th>Phys</th>
<th>Soc</th>
<th>Ment</th>
<th>Vital</th>
<th>Gen Health</th>
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<tbody>
<tr>
<td><strong>Committed Action (CAQ)</strong></td>
<td>.49***</td>
<td>-.05</td>
<td>-.57***</td>
<td>.20***</td>
<td>.40***</td>
<td>.58***</td>
<td>.33***</td>
<td>.37***</td>
</tr>
<tr>
<td><strong>Pain Acceptance (CPAQ)</strong></td>
<td>-.13</td>
<td>-.42***</td>
<td>.17*</td>
<td>.31***</td>
<td>.39***</td>
<td>.24***</td>
<td>.30***</td>
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* p < .05; ** p < .01; *** p < .001.
### Regression Results

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<th>Block</th>
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<th>$\Delta R^2$</th>
<th>$\beta$ (final)</th>
<th>Adjusted $R^2$</th>
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<td><strong>Depression (PHQ-9)</strong></td>
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<tr>
<td>1</td>
<td>Pain (0-10)</td>
<td>.064**</td>
<td>.22**</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Committed action (CAQ)</td>
<td>.15***</td>
<td>-.39***</td>
<td>.20***</td>
</tr>
<tr>
<td>1</td>
<td>Pain (0-10)</td>
<td>.064**</td>
<td>.20**</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pain acceptance (CPAQ)</td>
<td>.15***</td>
<td>-.16</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Committed action</td>
<td>.17***</td>
<td>-.48***</td>
<td>.37***</td>
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<td><strong>Physical Functioning (SF-36)</strong></td>
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<tr>
<td>1</td>
<td>Pain (0-10)</td>
<td>.080**</td>
<td>-.27**</td>
<td></td>
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<tr>
<td>2</td>
<td>Committed action (CAQ)</td>
<td>.033*</td>
<td>.18*</td>
<td>.097**</td>
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<tr>
<td>1</td>
<td>Pain (0-10)</td>
<td>.080**</td>
<td>-.27**</td>
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<td>Pain acceptance (CPAQ)</td>
<td>.018</td>
<td>.063</td>
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<tr>
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<td>.092**</td>
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<td>$\beta$ (final)</td>
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<td><strong>Social Functioning (SF-36)</strong></td>
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<td>-.26**</td>
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<td>.15***</td>
<td>.38***</td>
<td>.21***</td>
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<td>.081**</td>
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<td>Pain acceptance (CPAQ)</td>
<td>.077**</td>
<td>.12</td>
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<td><strong>Mental Health (SF-36)</strong></td>
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<td>.57***</td>
<td>.34***</td>
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<td>.51***</td>
<td>.35***</td>
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<td><strong>Vitality (SF-36)</strong></td>
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<td>Pain (0-10)</td>
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<td>-.17</td>
<td>.12***</td>
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<td>Committed action (CAQ)</td>
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<td>.32***</td>
<td>.12***</td>
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<td>.29**</td>
<td>.12***</td>
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<td><strong>General Health (SF-36)</strong></td>
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<td>Pain (0-10)</td>
<td>.00</td>
<td>-.042</td>
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<td>1</td>
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<td>Committed action (CAQ)</td>
<td>.065**</td>
<td>.29**</td>
<td>.13***</td>
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</table>
Feasibility Trial of ACT for Chronic Pain in General Practice

• Funded by NIH-R Research for Patient Benefit program

• Two phase project:
  – Stakeholder input
  – Feasibility testing

• Group-based ACT in comparison to treatment as usual.
Treatment Design

• Delivered in three groups, each in local GP practices.
• Only paper screening and no prior assessment visit was done.
• There were no exclusions on prior treatment, age, pain disorder, severity/complexity, and so forth.
• There were no individual sessions.
• No explicit physical exercise.
Invited to participate (N=481)

Assessed for eligibility (n=102)

Excluded (n=29)
- Not meeting inclusion criteria (n=22)
- Declined to participate (n=3)
- Did not provide consent (n=4)

Randomized (n=73)

Allocated to treatment (n=37)
- Received allocated treatment (n=27)
- Received partial treatment (n=6)
- Did not receive allocated treatment (n=4)
  - Due to illness (n=2), other obligation (n=1),
    unknown (n=1)

Allocated to treatment as usual (n=36)
- Withdrew after randomization due to loss of interest (n=1)

Post Treatment

Provided data at post treatment (n=31)
- Lost at post treatment assessment (n=6)
  - Due loss of interest (n=1), unknown (n=5)

Provided data at post treatment (n=27)
- Lost at post treatment assessment (n=9)
  - Due to other obligation (n=1), unknown (n=8)

Follow-up

Provided data at follow-up (n=28)
- Lost at follow-up (n=3), unknown (n=3)
## Participant Background Characteristics

<table>
<thead>
<tr>
<th></th>
<th>ACT (n = 37)</th>
<th>Treatment as usual (n = 36)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age, mean (SD), yr</strong></td>
<td>59.4 (12.8)</td>
<td>56.6 (12.7)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>32.4 %</td>
<td>30.6 %</td>
</tr>
<tr>
<td>Women</td>
<td>67.6 %</td>
<td>69.4 %</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/cohabiting</td>
<td>64.9 %</td>
<td>66.7 %</td>
</tr>
<tr>
<td>Single</td>
<td>13.5 %</td>
<td>11.1 %</td>
</tr>
<tr>
<td>Divorced</td>
<td>10.8 %</td>
<td>11.1 %</td>
</tr>
<tr>
<td>Widowed</td>
<td>10.8 %</td>
<td>0</td>
</tr>
<tr>
<td><strong>Ethnic group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>100 %</td>
<td>94.4 %</td>
</tr>
<tr>
<td>Indian</td>
<td>0</td>
<td>2.8 %</td>
</tr>
<tr>
<td>Other ethnicities</td>
<td>0</td>
<td>2.8 %</td>
</tr>
<tr>
<td><strong>Yrs education, M (SD)</strong></td>
<td>12.53 (4.26)</td>
<td>12.26 (4.27)</td>
</tr>
<tr>
<td><strong>Working status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time</td>
<td>0</td>
<td>19.4 %</td>
</tr>
<tr>
<td>Part time</td>
<td>5.4 %</td>
<td>0</td>
</tr>
<tr>
<td>Part time (pain)</td>
<td>10.8 %</td>
<td>5.6 %</td>
</tr>
<tr>
<td>Unemployed</td>
<td>0</td>
<td>2.8 %</td>
</tr>
<tr>
<td>Unemployed (pain)</td>
<td>32.4 %</td>
<td>30.6 %</td>
</tr>
<tr>
<td>Home-maker</td>
<td>16.2 %</td>
<td>13.9 %</td>
</tr>
<tr>
<td>Retired</td>
<td>32.4 %</td>
<td>13.9 %</td>
</tr>
<tr>
<td><strong>Years in pain, M (SD)</strong></td>
<td>13.91 (10.6)</td>
<td>13.05 (12.0)</td>
</tr>
<tr>
<td><strong>Primary Pain location</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low back</td>
<td>37 %</td>
<td>41.9 %</td>
</tr>
<tr>
<td>Lower extremity</td>
<td>18.2 %</td>
<td>19.9 %</td>
</tr>
<tr>
<td>Neck</td>
<td>8.1 %</td>
<td>16.2 %</td>
</tr>
<tr>
<td>Other</td>
<td>16.2 %</td>
<td>8.4 %</td>
</tr>
</tbody>
</table>
## Post Treatment Evaluation

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean rating (SD)</th>
<th>Percent ratings ≥ 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>How logical did the treatment offered to you seem?</td>
<td>6.5 (2.2)</td>
<td>86.1</td>
</tr>
<tr>
<td>How successful to you think this treatment was in reducing the impact of pain on your life?</td>
<td>4.5 (2.3)</td>
<td>62.1</td>
</tr>
<tr>
<td>How confident would you be in recommending this treatment to a friend?</td>
<td>7.0 (2.8)</td>
<td>82.8</td>
</tr>
<tr>
<td>How interesting and engaging was the treatment overall?</td>
<td>8.3 (1.9)</td>
<td>93.1</td>
</tr>
<tr>
<td>How satisfied were you with the overall quality of the treatment?</td>
<td>8.6 (2.3)</td>
<td>93.1</td>
</tr>
</tbody>
</table>

Note: All item rated on a scale from 0, “Not at all,” to 10, “Completely.”
## Post Treatment Interview Results: Acceptability

<table>
<thead>
<tr>
<th>Experiences of participation</th>
<th>Acceptable</th>
<th>Unacceptable</th>
<th>Neither Acceptable nor Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process of contact and invitation</td>
<td>24 (100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consent process</td>
<td>24 (100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarity and completeness of initial information provided</td>
<td>19 (79.2)</td>
<td>3 (12.5)</td>
<td>2 (8.3)</td>
</tr>
<tr>
<td>Treatment allocation</td>
<td>14 (58.3)</td>
<td>2 (8.3)</td>
<td>8 (33.3)</td>
</tr>
<tr>
<td>Number of sessions</td>
<td>14 (58.3)</td>
<td>8 (33.3)</td>
<td>2 (8.3)</td>
</tr>
<tr>
<td>Length of sessions</td>
<td>15 (62.5)</td>
<td>9 (37.5)</td>
<td></td>
</tr>
<tr>
<td>Scheduling of sessions</td>
<td>20 (83.3)</td>
<td>4 (16.7)</td>
<td></td>
</tr>
<tr>
<td>Content of focus of sessions</td>
<td>21 (87.5)</td>
<td>2 (8.3)</td>
<td>1 (4.2)</td>
</tr>
<tr>
<td>Experience of being in sessions and doing tasks</td>
<td>21 (87.5)</td>
<td>1 (4.2)</td>
<td>2 (8.3)</td>
</tr>
<tr>
<td>Practicing exercises and making changes at home</td>
<td>19 (79.2)</td>
<td></td>
<td>5 (20.8)</td>
</tr>
<tr>
<td>The assessment methods</td>
<td>19 (79.2)</td>
<td>1 (4.2)</td>
<td>4 (16.7)</td>
</tr>
<tr>
<td>The experience of completing treatment and moving on</td>
<td>18 (75.0)</td>
<td>3 (12.5)</td>
<td>3 (12.5)</td>
</tr>
<tr>
<td><strong>AVERAGE %</strong></td>
<td>79.2</td>
<td>11.5</td>
<td>9.4</td>
</tr>
</tbody>
</table>
### Clinical Outcomes & Process

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Between Group Post (F)</th>
<th>Effect Size Post</th>
<th>Between Group F-up (F)</th>
<th>Effect Size F-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability</td>
<td>3.16</td>
<td>.32</td>
<td>6.10*</td>
<td>.59</td>
</tr>
<tr>
<td>Depression</td>
<td>5.60*</td>
<td>.46</td>
<td>4.45*</td>
<td>.58</td>
</tr>
<tr>
<td>Pain</td>
<td>1.41</td>
<td>.44</td>
<td>&lt; 1</td>
<td>.32</td>
</tr>
<tr>
<td>Pain Acceptance</td>
<td>3.60</td>
<td>.26</td>
<td>5.83*</td>
<td>.64</td>
</tr>
</tbody>
</table>

* p < .05
Results (continued)

• No effects on…
  – Physical or emotional functioning from the SF-36
  – General psychological acceptance from the AAQ-II

• Generally stronger and more consistent effects for disability, depression, and pain acceptance in analyses of “treatment completers.”
Lessons Learned

• Potential ways to increase treatment impact:
  – Recruit participants without prior psych treatment.
  – Conduct face-to-face assessment pre-treatment.
  – Include physical exercise.
  – Include individual sessions.
  – Focus more on general psychological acceptance.
Summary
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