When Pain Won’t Go Away……Then what?

An evaluation of Acceptance Commitment Therapy (ACT) in a pain management program using Program Assessment Tool (PAT)

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The Burden of Chronic Pain

- Chronic pain defined as pain experienced every day for 3 months or more (2)
- It affects 1 in 5 Australians (19%) (1)
- Estimated to cost $AUD 34.3 billion per year (2)

Prevalence Comparisons – Chronic Pain and Other Conditions, 2005

Visual disorders - 12,000
Musculoskeletal* - 8,000
Cardiovascular* - 6,000
Chronic pain - 4,000
Hearing loss - 2,000
Mental & behavioural* - 1,000
Asthma* - 1,000
Nervous system - 1,000
Skin & subcutaneous tissue - 1,000
Diabetes mellitus* - 1,000
Genito-urinary system - 1,000
Neoplasms* - 1,000
Blood & blood forming organs - 1,000
Infectious & parasitic - 1,000

Prevalence (thousands of people).

* National health priorities.

Note: Chronic pain, in addition to being a condition in its own right, is also an important component of NHPA conditions, for example cancer, musculoskeletal diseases and injuries.

Health Expenditure Comparisons, Chronic Pain and Other Conditions, 2000-01 ($ Million)

Cardiovascular diseases - 6,000
Musculoskeletal conditions - 5,000
Chronic pain - 4,000
Injuries - 3,000
Other Cardiovascular conditions - 2,000
Mental disorders - 1,000
Cancer - 1,000
Ischaemic heart disease - 1,000
Depression - 1,000
Stroke - 1,000
Diabetes mellitus - 1,000
Asthma - 1,000

Note: Chronic pain, in addition to being a condition in its own right, is also an important component of NHPA conditions, for example cancer, musculoskeletal diseases and injuries.
Paradox of Pain Control Approaches

- Analgesic drugs
- NSAIDS
- Antidepressants
- Steroid injections

- Helpful in the short-term
- Not an effective long-term solution for chronic pain
- Can increase sensitivity to pain
- Have unacceptable side-effects

The problem of control

- Dominates all of the patient’s time and effort
  - Frequent doctor’s visits, seeking the ‘magic bullet’.

- Narrow solutions “I have to control my pain before I can….”

- People become further removed from experiences and activities that give their life meaning.

- Life becomes restricted.
Psychological approaches to managing pain

- Cognitive Behavioural Therapy (CBT) – assumes primacy of cognition in mediating pain related distress.

- Assumes that changing negative content of thoughts and beliefs about pain will lead to reductions in pain behaviour and distress.

- Expectation is symptom reduction.

Limitations of CBT interventions

- Effective in the short-term, but long-term – patients frequently relapse. Why?

- Intractable nature of chronic pain automatically activates negative mental scripts about pain = negative affect.

- Distraction and cognitive restructuring focuses attention toward the very cognitive or sensory experience one is trying to avoid.

- The mind’s radar always increases the perception of ‘threat’. Pain becomes more intolerable.
What do you do when you cannot control the uncontrollable?

- Acceptance Commitment Therapy (ACT) for Chronic Pain

**ACT**

ACT is a

- Mindfulness based
- Values directed
- Behavioural therapy

Objective is:

- to create a rich and meaningful life, while accepting the pain that inevitably goes with it.
Core processes in ACT

- Mindfulness involves non-judgemental awareness of the present moment.
- Mindfulness practice allows clients to approach previously avoided thoughts feelings and physical sensations of pain in a non-reactive, non-judgemental way.
- Changes perspective to observe what is, not what our minds interpret it to be.

Values in ACT

- Clients stuck in chronic pain are mostly active in the unfulfilling struggle of reducing pain rather than living a life of their choosing.
- Pain becomes the ‘reason’ why patients don’t pursue valued activities: Associated with increased disability.
- Values are different from goals.
- Values are a ‘choice’.
- The question to ask clients: ‘Which master do you serve?’
The Primary ACT Model of Treatment

Evaluating ACT within a Multidisciplinary pain program

- Relying on statistically significant change between admission and discharge scores tells only part of the story.

- Non-significant findings could be attributed to low numbers, patient characteristics or efficacy of the program.

- Cannot tell what components of the program were successful by only measuring change between admission and discharge scores?
In 2007, we implemented the PAT© program.

The methodology combined the education process (in this case ACT) with epidemiological techniques and online IT infrastructure to create an end to end approach to program development, delivery and assessment.

Assessed difference between pre- and post-outcome measures.

Rated patient perceptions about level of importance of selected outcome deliverables, level of achievement, and life difference?

Program deliverables were linked to values.

PAT Program Deliverables

MDT defined education program outcome deliverables using PAT methodology.

Information obtained from past patients’ program expectations was also used to help define the program deliverables.

A final list of 22 program deliverables helped form the focus of the education information sessions for the patients.
Program outcome expectations under value domains of:

- Health/physical wellbeing
- Education/personal growth and development
- Social network/friends
- Family relations
- Employment/career

Preliminary outcomes using PAT in assessing efficacy of ACT

**METHOD**

- 41 patients attended one of 6 full-time pain management programs run between February 2007 and February 2008.
- Programs ran for two weeks, Monday to Friday between 9.00 am and 3.00 pm.

- Average age was 44 years (range 23-70 years)
- 61% (25/41) were female
- 39% (16/41) were male
- 21 patients have completed 4 month follow-up.
Program Assessment Tool (PAT)

- Patients selected 6 expectations from a pre-defined list of program deliverables they wanted to achieve by doing the pain management program.

- The PAT was filled out at the beginning of the program, 1-month, 4-months and 8-months following the program.

Other Psychological Measures

- Depression, Anxiety and Stress Scale (DASS21)
- Pain Self-Efficacy Scale
- Pain Catastrophising Scale
- Fear Avoidance Beliefs Questionnaire

- These questionnaires were also completed at the beginning of the program, and again at 1-month, 4-months, and 8-months post-program.
RESULTS
Baseline psychological characteristics of patients (n=41)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Normal (%)</th>
<th>Mild (%)</th>
<th>Moderate (%)</th>
<th>Severe (%)</th>
<th>Extremely Severe (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>26.8</td>
<td>7.3</td>
<td>22.0</td>
<td>9.8</td>
<td>34.1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>26.8</td>
<td>7.3</td>
<td>17.1</td>
<td>7.3</td>
<td>41.5</td>
</tr>
<tr>
<td>Stress</td>
<td>36.6</td>
<td>12.2</td>
<td>17.1</td>
<td>17.1</td>
<td>17.1</td>
</tr>
<tr>
<td>Helplessness</td>
<td>-</td>
<td>34.2</td>
<td>31.6</td>
<td>26.3</td>
<td>7.9</td>
</tr>
<tr>
<td>Magnification</td>
<td>13.2</td>
<td>36.8</td>
<td>21.1</td>
<td>18.4</td>
<td>10.5</td>
</tr>
<tr>
<td>Rumination</td>
<td>10.5</td>
<td>15.8</td>
<td>36.8</td>
<td>23.7</td>
<td>13.2</td>
</tr>
<tr>
<td>Self efficacy</td>
<td>17.1</td>
<td>26.8</td>
<td>31.7</td>
<td>19.5</td>
<td>4.9</td>
</tr>
<tr>
<td>Pain intensity</td>
<td>-</td>
<td>3.4</td>
<td>72.4</td>
<td>24.1</td>
<td>-</td>
</tr>
<tr>
<td>Fear avoidance</td>
<td>-</td>
<td>20.7</td>
<td>31.0</td>
<td>27.6</td>
<td>20.7</td>
</tr>
</tbody>
</table>

Depression

Mean Depression (+/-95% CI)

P = 0.1
P = 0.02

Baseline n=21  | 1 month n=20  | 4 months n=21 | 8 months n=8
Stress

Mean Stress (+/- 95% CI)

Baseline n=21 1 month n=20 4 months n=21 8 months n=8

Helplessness

Mean Helplessness (+/- 95% CI)

Baseline n=21 1 month n=20 4 months n=21 8 months n=8
Fear Avoidance

Mean Fear Avoidance (+/- 95% CI)

Score

Baseline n=14 1 month n=13 4 months n=15 8 months n=8

P = 0.04

P = 0.0008

Magnification

Mean Magnification (+/- 95% CI)

Score

Baseline n=21 1 month n=20 4 months n=21 8 months n=8

P = 0.005

P = 0.0004
Other results

- Anxiety \( p = 0.007 \)
- Rumination \( p = 0.004 \)
- Self-efficacy \( p = 0.0001 \)

At one month:

Patient Deliverable Choices

<table>
<thead>
<tr>
<th>TOP FIVE EXPECTATIONS</th>
<th>LEAST SELECTED EXPECTATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reduce depression, anxiety and stress</td>
<td>1. Improve ability to self-care</td>
</tr>
<tr>
<td>2. Improve mobility</td>
<td>2. Take medication as prescribed</td>
</tr>
<tr>
<td>3. Improve ability to exercise</td>
<td>3. Enter the workforce</td>
</tr>
<tr>
<td>4. Improve ability to sleep</td>
<td>4. Improve use of public transport</td>
</tr>
<tr>
<td>5. Increase self-esteem</td>
<td>5. Improve social contacts</td>
</tr>
</tbody>
</table>
Summary of Deliverable Outcomes at 1 & 4 months

Program review based on PAT results

- PAT was able to improve and refine the MDT program in three ways:
  - Removal of a deliverable – e.g. enter the workforce
  - Modify the education session to improve likelihood of deliverable being achieved – e.g. sleep.
  - Change expectations of what can be achieved – e.g. cannot prevent a relapse.
Summary of ACT outcomes

- Pain management program at the Canberra Hospital is having a positive outcome on patient’s ability to live with pain.

- Focus shifted from expectation of elimination of pain to pursuing valued directions with pain as a secondary concern.

- Patients were more tolerant of pain – as patients were reporting a reduction in the use of pain medications at 4 months.

- Results support decreasing levels of helplessness, magnification of pain, stress and fear avoidance.

Summary of ACT outcomes cont.

- Pain hadn’t changed but patients reported being less fearful and more accepting of pain.

Valued life directions patients reported being more active in:

- pursuing new careers
- increasing their time at work.
- pursuing leisure interests
- engaging in regular exercise

All of which had been previously avoided or put on hold in attempts to eliminate pain
PAT Conclusions

- Outcome measures, while important, do not identify where the program is working or not working, and how to improve it.

- Simply measuring patients’ changes in psychological and functional states is not action oriented.

- Relying on patients’ comments is fraught with issues of bias.

PAT Conclusions cont.

- PAT has provided clear quantitative evidence to help identify components of the program that need action and what type of action.

- Focus of PAT shifts the blame from the patient (attainment of goals) to how well the program achieves in delivering learning outcomes.

- Provided a framework to answer the team’s questions, identified patients’ achievements and areas of concern.

- Allows for constant and ongoing evaluation of the program.

- Finally, this process has highlighted the importance of looking at values as opposed to goals – this has been a fundamental shift in our program.
Questions?