Prognostic factors in chronic pain: who will do better who will not?

Self-Management of Pain Workshop

In this talk...

› Current use of self-management strategies in chronic pain

› Potential for using self-management strategies earlier in the course of the ‘pain journey’ to modify prognosis/outcome
› How self-management fits in the bigger picture of chronic pain in the community: an Australian perspective

› How should self-management interventions be delivered in the community: some evidence from the UK

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**Types of care used in the Australian community**

- Self-care
- Complementary/Alternative care
- Informal health care
- Formal health care

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What people do...

› Trying a range of helpful & unhelpful self-care strategies
› getting advice from lots of places
› self-medicating
› using alternative therapies
› AND seeing their local doctor

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NSA Pain Study, PAIN 2005;113:285-292

Self-management of chronic pain: a population-based study;
Fiona M. Blyth*,†, Lyn M. Mach*, Michael K. Nicholas*,
Michael J. Cousins*

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2092 adults in NSA
474 with chronic pain
1998

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Table 1
Coding for self-management strategies

<table>
<thead>
<tr>
<th>Active strategies</th>
<th>Passive strategies</th>
<th>Conventional medical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Cognitive</td>
<td>Diet</td>
</tr>
<tr>
<td>Correct posture</td>
<td>Relaxation</td>
<td>Avoiding activity</td>
</tr>
<tr>
<td>Exercise</td>
<td>Distraction</td>
<td>Rest</td>
</tr>
<tr>
<td>Modified use</td>
<td>Prayer</td>
<td>Hot baths/shower</td>
</tr>
<tr>
<td>Social activities</td>
<td>Meditation</td>
<td>TENS</td>
</tr>
<tr>
<td>Work</td>
<td>Reduce stress</td>
<td>Braces</td>
</tr>
<tr>
<td>Usual tasks</td>
<td></td>
<td>Acupuncture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chiropractor</td>
</tr>
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</table>
Table 2
Types of self-management strategies used

<table>
<thead>
<tr>
<th>Strategy types</th>
<th>N of pain respondents</th>
<th>% (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active behavioural</td>
<td>136</td>
<td>54.0 (29.4-78.8)</td>
</tr>
<tr>
<td>Exercise</td>
<td>120</td>
<td>25.8 (21.5-30.2)</td>
</tr>
<tr>
<td>Posture</td>
<td>52</td>
<td>12.1 (8.7-15.4)</td>
</tr>
<tr>
<td>Other*</td>
<td>8</td>
<td>1.7 (0.5-5.3)</td>
</tr>
<tr>
<td>Passive behavioural</td>
<td>277</td>
<td>58.3 (54.5-66.2)</td>
</tr>
<tr>
<td>Rest</td>
<td>130</td>
<td>31.5 (27.0-36.3)</td>
</tr>
<tr>
<td>Hot/cold packs</td>
<td>109</td>
<td>23.4 (19.1-27.6)</td>
</tr>
<tr>
<td>Massage</td>
<td>83</td>
<td>18.0 (14.2-21.8)</td>
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<tr>
<td>Hot showers</td>
<td>34</td>
<td>7.3 (4.7-9.9)</td>
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<tr>
<td>Hot baths</td>
<td>29</td>
<td>6.8 (4.2-9.4)</td>
</tr>
<tr>
<td>Change diet</td>
<td>16</td>
<td>3.1 (1.4-4.7)</td>
</tr>
<tr>
<td>Other*</td>
<td>4</td>
<td>10.9 (6.0-1.3)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>51</td>
<td>11.2 (8.1-14.4)</td>
</tr>
<tr>
<td>Relaxation</td>
<td>39</td>
<td>8.9 (6.0-11.8)</td>
</tr>
<tr>
<td>Other*</td>
<td>15</td>
<td>3.0 (1.4-4.6)</td>
</tr>
<tr>
<td>Conventional medical</td>
<td>252</td>
<td>52.1 (47.2-57.1)</td>
</tr>
<tr>
<td>Total medication</td>
<td>228</td>
<td>47.0 (42.0-51.9)</td>
</tr>
<tr>
<td>Brace/support</td>
<td>25</td>
<td>5.9 (3.6-8.2)</td>
</tr>
<tr>
<td>Chiropractic treatment</td>
<td>12</td>
<td>2.3 (0.9-3.7)</td>
</tr>
<tr>
<td>Physiotherapy</td>
<td>11</td>
<td>2.6 (0.9-4.3)</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>1.0 (0.1-1.9)</td>
</tr>
</tbody>
</table>

* Totals are for any mention of that category.

Table 3
Patterns of self-management strategies used

<table>
<thead>
<tr>
<th>Combinations of strategies</th>
<th>N of pain respondents</th>
<th>% (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional and passive behavioural</td>
<td>95</td>
<td>19.7 (15.8-23.6)</td>
</tr>
<tr>
<td>Passive behavioural</td>
<td>91</td>
<td>19.5 (15.5-23.5)</td>
</tr>
<tr>
<td>Conventional</td>
<td>80</td>
<td>10.9 (13.5-20.3)</td>
</tr>
<tr>
<td>Active behavioural</td>
<td>49</td>
<td>9.8 (7.0-12.7)</td>
</tr>
<tr>
<td>Active behavioural and passive behavioural</td>
<td>35</td>
<td>8.4 (5.6-11.2)</td>
</tr>
<tr>
<td>Conventional and active behavioural and passive behavioural</td>
<td>30</td>
<td>6.3 (4.1-8.5)</td>
</tr>
<tr>
<td>Conventional and active behavioural and cognitive</td>
<td>26</td>
<td>5.1 (3.0-7.1)</td>
</tr>
<tr>
<td>Nil</td>
<td>17</td>
<td>3.6 (1.9-5.3)</td>
</tr>
<tr>
<td>Conventional and passive behavioural and cognitive</td>
<td>11</td>
<td>2.8 (1.0-4.5)</td>
</tr>
<tr>
<td>Passive behavioural and cognitive</td>
<td>10</td>
<td>2.1 (0.8-3.4)</td>
</tr>
<tr>
<td>Cognitive</td>
<td>9</td>
<td>1.9 (0.7-3.1)</td>
</tr>
<tr>
<td>Active behavioural and cognitive</td>
<td>6</td>
<td>1.3 (0.3-3.2)</td>
</tr>
<tr>
<td>Conventional and cognitive</td>
<td>5</td>
<td>1.1 (0.1-2.0)</td>
</tr>
<tr>
<td>Active behavioural and cognitive</td>
<td>5</td>
<td>1.1 (0.1-2.0)</td>
</tr>
<tr>
<td>Conventional and active behavioural and cognitive</td>
<td>4</td>
<td>0.8 (0.0-1.7)</td>
</tr>
</tbody>
</table>

Table 5
Adjusted odds ratios multivariate logistic regression modelling with pain-related disability and health care visits as the dependent variables

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Self-management strategies variables</th>
<th>Explanatory variables</th>
<th>Adjusted odds ratios (95% C.I.)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain-related disability (Chronic pain Grade III/IV)</td>
<td>4 categories</td>
<td>Past or current legal claim related to pain</td>
<td>3.13 (1.43-6.85)</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uses conventional self-management strategies</td>
<td>2.15 (1.26-3.67)</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor/life self-rated health</td>
<td>1.92 (1.10-3.55)</td>
<td>0.021</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychological distress*</td>
<td>1.74 (0.93-3.23)</td>
<td>0.083</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uses active self-management strategies</td>
<td>0.48 (0.27-0.85)</td>
<td>0.041</td>
</tr>
<tr>
<td>Pain-related disability (Chronic Pain Grade III/IV)</td>
<td>2 categories</td>
<td>Past or current legal claim related to pain</td>
<td>3.52 (1.56-7.94)</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poor/life self-rated health</td>
<td>1.83 (1.07-3.14)</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychological distress*</td>
<td>1.72 (0.93-3.20)</td>
<td>0.085</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Only uses active self-management strategies</td>
<td>0.18 (0.06-0.49)</td>
<td>0.004</td>
</tr>
<tr>
<td>Top quartile of doctor/allied health practitioner visits</td>
<td>4 categories</td>
<td>Uses opioid medication</td>
<td>3.74 (1.63-8.60)</td>
<td>0.002</td>
</tr>
<tr>
<td>Chronic Pain Grade III or IV</td>
<td>Uses passive self-management strategies</td>
<td>3.05 (1.45-6.41)</td>
<td>0.003</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uses conventional self-management strategies</td>
<td>3.62 (1.69-7.73)</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chronic pain due to injury</td>
<td>2.96 (1.42-6.15)</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Uses informal or formal help at home due to pain</td>
<td>2.23 (1.03-4.84)</td>
<td>0.043</td>
<td></td>
</tr>
</tbody>
</table>

* Age and sex terms included.

* Retained for improved model fit.
Informal health care

10.2% used informal help from family/friends for taking medications

36.3% sought advice from family/friends about managing their pain

Self-management can take different forms

Self-management of pain in community setting

Informal/self-taught

Unstructured health professional input

Structured health professional input or lay-led
Community-based pain self-management programs in Australia

Multidisciplinary PMP in tertiary/pain clinic settings → Community-based pain self-management programs → Chronic disease self-management programs

Professional-led or lay-led → Disease-specific pain or pain generally

Standard program components: CBT pain self-management

› Instead of trying to change pain reports, mood, and disability by analgesia alone

› CBT involves identifying what is maintaining pain behaviours, distressed mood, and disability: (eg. unhelpful beliefs, poor coping strategies, family interactions)

› Then helping the patient to change these contributors

› Normally done in a collaborative way
Collaborative care framework

Von Korff et al. (1997) Ann Int Med, 127, 1097-1102

› “Medical care for chronic illness is rarely effective in the absence of adequate self-care (by patient)”
› **Collaborative care** = patients + providers: shared goals, sustained working relationship, mutual understanding of roles/responsibilities, requisite skills for carrying them out

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Standard program components: CBT pain self-management

› **Reconceptualise pain** (hurt ≠ harm)
› **Active role** for patient
› **Set achievable, goals** (desired by patient)
› **Specify steps towards those goals**
› **Systematic** encouragement for progress towards these goals
› **Identify likely obstacles + plan for solving them**
› **Teach skills for dealing with obstacles** (eg. problem-solving, coping strategies, like activity pacing)
› **Maintenance plan**
What are we doing in these SM Programs?

› how many intervention targets can be included?
› do all targets get the same “dose” of the intervention?
› how important is “dose tailoring” to individuals?
› how do we measure adherence?
› What is the right “maintenance dose” that will lead to lasting gains?

Allore et al, Clin Trials 2005

Translating self-management programs from the clinic to the community

› Senior-ADAPT study underway at RNSH PMRI

› Multi-disciplinary program of pain self-management for people aged 65 and over

› Ultimate aim is to translate the program into community settings
Self-management approaches an increasingly important aspect of healthcare for chronic pain and other chronic illnesses.

But little evidence of their systematic use in elderly chronic pain patients.

Within Australia, current health practices for people with chronic pain conditions are predominantly passive treatment modalities (e.g., heat packs, analgesic medications).

Support the efficacy of CBT interventions with this population (Puder et al., 1988; Keefe et al., 1990; Cooke, 1998; Ersek et al., 2003; 2008).

Study limitations (small sample sizes, institutionalised sample, restricted pain-site sample) restrict the generalisability of their findings.

A recent non-randomised, quasi-experimental Australian study did find some support for the use of education about pain and a range of options for the self-management of chronic pain in community-dwelling older people, but findings restricted by the non-randomised design (Kung et al., 2000).
Inclusion criteria – Aged 65 plus with chronic pain; Independent living, not cognitively impaired, no major psychiatric disorders, able to attend (GP agreement)

21 groups of 8 randomised to:

- **Intervention** – tailored physical exercise, CBT, education, optional analgesic reduction (16 hrs – 2x2 hrs per week for 4 weeks). PACING and UPGRADING

- **Attention-control** – same time structure, general instructions about exercises but no pacing and upgrading, sessions with psychologist (sympathetic listening)

- **Waiting list control** – assessed at baseline and again at 3 months, then exit study and offered program

Main outcome measure – reduced pain-related disability at 1, 6 and 12 months

- Self-reported physical functioning, distress, disability (Roland and Morris scores)

- Physical functioning – timed walk, 10 metre walk, step test, other balance tests (from Berg)
Some interesting observations about the intervention

› Cognitive therapy fine if focussed around maintenance of personal functional goals

› Great interest in medication reduction, even though not a primary therapeutic target

› Attention-control credible

› Staff enjoyment

Do pain questionnaires “work” in older people?

› Respondent burden – “batteries”

› Missing data – fatigue effects, systematic

› Psychometric performance

› Relationships between important domains (e.g. mood, self-efficacy, medication use)
Early follow-up findings

**Usual pain**

- PSMG
- ACG
- WLG

**Physical disability**

- PSMG
- ACG
- WLG
More recent developments

› Interest from local division of GPs & nursing home staff in intervention program for aged care residents

› Pilot studies to train physiotherapists who work in residential aged care facilities in skills needed to run the program

› GP engagement is an ongoing process

Other examples of community-based SM programs

UK models:

› Integration into comprehensive program

› Views from the consumer perspective

› Evaluation of lay-led programs
What has been the experience elsewhere?

› Southampton NHS Trust (Dr Cathy Price)

› Scottish Pain Association (Mr David Falconer)
Southampton NHS model: Enablers in Primary Care

Persistent Pain
Guidelines for the Pharmacological management of pain in Primary Care/Non-specialist Centres and referral to Specialist Secondary Care Services

Approved by Basingstoke, Southampton and Winchester District Prescribing Committee.
May 2009
Chair: M. Stephens

The Pain Toolkit
...is for people who live with persistent pain

A persistent pain problem can be difficult to understand and manage on an everyday basis.

Tool 1: Accept that you have persistent pain... and then begin to reassure
Tool 2:认识到
Tool 3: Identifying what helps
Tool 4: Learn to avoid things that make your pain worse
Tool 5: Stay active
Tool 6: Keep on top of your pain

The Pain Toolkit is a simple information booklet that could provide you with some handy tips and skills to support you along the way to manage your pain.

It is not meant to be the last word in pain self-management, but a handy guide to help you get started - all you need to be is willing to read it and take on board some of the suggestions.

Good luck!
Pete Moore

Slide courtesy of Dr Cathy Price

Recent perspectives on CDSM models

How effective are expert patient (lay led) education programmes for chronic disease?

SUMMARY POINTS
In the United Kingdom the expert patients programme will be rolled out to 100 000 patients by 2012
Four randomised trials set in the UK indicate that although lay led programmes increase patients’ confidence to manage their disease, they are unlikely to reduce either hospital admissions or the use of other healthcare resources in the NHS
Lay led programmes in the UK need evaluation before they can be recommended over other programmes with established impact

Content of standard six week chronic disease self management programme

Session 1—Course overview; acute and chronic conditions compared; cognitive symptom management; better breathing; introduction to action plans
Session 2—Feedback; dealing with anger, fear and frustration; introduction to exercise; making an action plan
Session 3—Feedback; distraction; muscle relaxation; fatigue management; monitoring exercise; making an action plan
Session 4—Feedback; making an action plan; healthy eating; communication skills; problem solving
Session 5—Feedback; making an action plan; use of medication; depression management; self talk; treatment decisions; guided imagery
Session 6—Feedback; informing the healthcare team; working with your healthcare professional; looking forward.

Found that professionally-led self-management programs were more effective: WHY?
Why might professionally-led self-management programs be more effective?

› Better targeted (to patients and also to specific aspects of chronic disease in question)

› Combine self-management with other interventions (e.g. graded exercise, medication reduction) that are tailored, behaviourally-based (i.e. practice not just advice)

› Health professional led = better integration and credibility

› Is a hybrid model best?

In this talk...

› Current use of self-management strategies in chronic pain

› Potential for using self-management strategies earlier in the course of the ‘pain journey’ to modify prognosis/outcome
There is a large burden of chronic pain in the community that needs to be addressed.

One part of the strategy is to deal with the current burden.

Another part must be to reduce the burden in the future through primary and secondary prevention of chronic pain.

Can self-management play a role in reducing the progression from acute to chronic pain?

Using self-management interventions more proactively to reduce the community burden of pain.
Conclusion  The most helpful components for predicting persistent disabling low back pain were maladaptive pain coping behaviors, nonorganic signs, functional impairment, general health status, and presence of psychiatric comorbidities.

<table>
<thead>
<tr>
<th>Definitions</th>
<th>No. of Studies</th>
<th>Timing of Outcome Assessment</th>
<th>Median (Range) LR</th>
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<tbody>
<tr>
<td>Fear avoidance behaviors or coping strategies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensity of fear avoidance</td>
<td>4</td>
<td>3-6 mo</td>
<td>2.2 (1.5-4.9)</td>
</tr>
<tr>
<td>High</td>
<td>23,33,35,36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>1.1 (0.8-1.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>0.46 (0.30-0.73)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensity of fear avoidance</td>
<td>2</td>
<td>1 y</td>
<td>2.5 (2.0-2.9)</td>
</tr>
<tr>
<td>High</td>
<td>23,37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>1.2 (1.2-1.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>0.39 (0.36-0.40)</td>
<td></td>
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</tr>
</tbody>
</table>

Prognostic risk factors for pain

- Systematic review of prognostic factors for musculoskeletal pain in primary care
- 45 prospective observational cohort studies met quality inclusion criteria
- 11 baseline factors associated with poor outcome for at least two different regional pain syndromes
Common prognostic factors

- Pain severity
- Anxiety and/or depression
- Higher somatic perceptions/distress
- Adverse coping strategies
- Higher disability
- Greater movement restriction
- Longer duration pain
- Multiple sites pain
- Previous episodes pain
- Low social support
- Older age

Consistency across different regional pain syndromes

A model for using self-management interventions in a prognostic framework

Early assessment of risk of persistent/disabling pain

High intensity intervention

Moderate intensity intervention

Low intensity intervention

?Adherence and maintenance?
Knowledgeable, empowered & supported consumers

› **Education**: difference between Acute vs Chronic pain

› **Information**: chronic pain implications for treatment

› **Self management programs** for consumers

› **Community based support** for people in pain
To conclude

› Self-management of pain is central to improving the lives of people with pain
› In community settings pain self-management interventions can be delivered in many different ways
› More effort and resources need to go into implementing and evaluating community-based interventions
› To be most effective in the fight against pain, we should also look at how we could use self-management earlier in the ‘pain journey’

Thank you for inviting me