

Self Management of Pain After Spinal Cord Injury: A Review of the Evidence Base

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Background

- A significant proportion of people with SCI experience chronic pain (44% ; Walter et al. 2002)
- Client and Staff Attitudes (McDonald & Fish, 2002)
- Chronic pain is recognized as a biopsychophysiological phenomenon (Wegener & Haythornthwaite, 2001)
- Pain self management interventions have been successfully applied to other chronic pain conditions (Wegener & Shertzer, 2004)
- Successful pain self management may reduce medication dependency, enhance personal control and independence
- Individuals with SCI prefer psychological approaches to chronic pain regulation to pharmacological approaches (Wegener & Haythornthwaite, 2001)

Rationale: Enhancing Self Care to Manage Long-Term Conditions

- Worldwide trend of increased longevity and mounting health care costs (Clark, 2003)
- Patients increasing expectation of direct involvement in health care planning and delivery (Baker, 2000), reflected in service re-design (UK Department of Health, 2004)
- Success to promote self care as part of chronic disease management programs (Dongbo et al., 2003)

Objective:

- To review the evidence base for self management in the modulation of pain after spinal cord injury
- Review question: *What type of interventions are suggested or described that focus on self management with regard to modulating pain after SCI?*

Secondary question

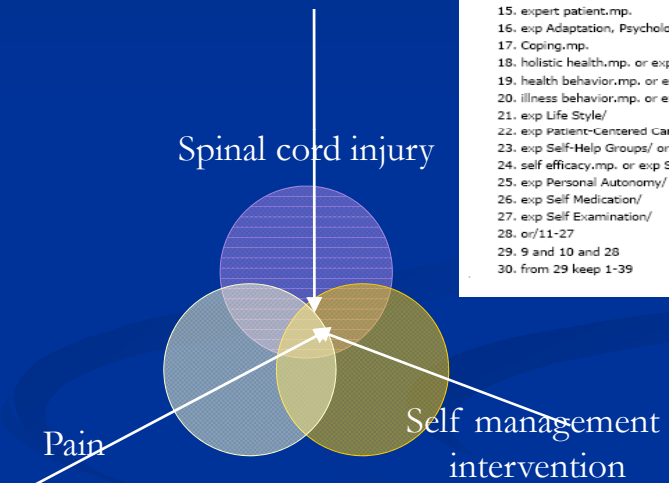
- *Are self management interventions for adults with spinal cord injury effective in modulating the experience of pain?*

Defining ‘Self Management’

- Self management is a multidimensional constructs without a ‘gold standard’ definition. It may vary according to who is involved, what is entailed and what the (intended) outcomes are
- “Self management refers to the *individual’s ability to manage the symptoms, treatment, physical and psychosocial consequences and lifestyle changes* inherent in living with a chronic condition. Efficacious self management encompasses ability to *monitor* one’s condition and to *effect the cognitive, behavioural and emotional responses* necessary to maintain a satisfactory *quality of life*. Thus, a *dynamic and continuous process of self regulation* is established” (Barlow, Wright, Sheasby, Turner & Hainsworth, 2002, p.178).

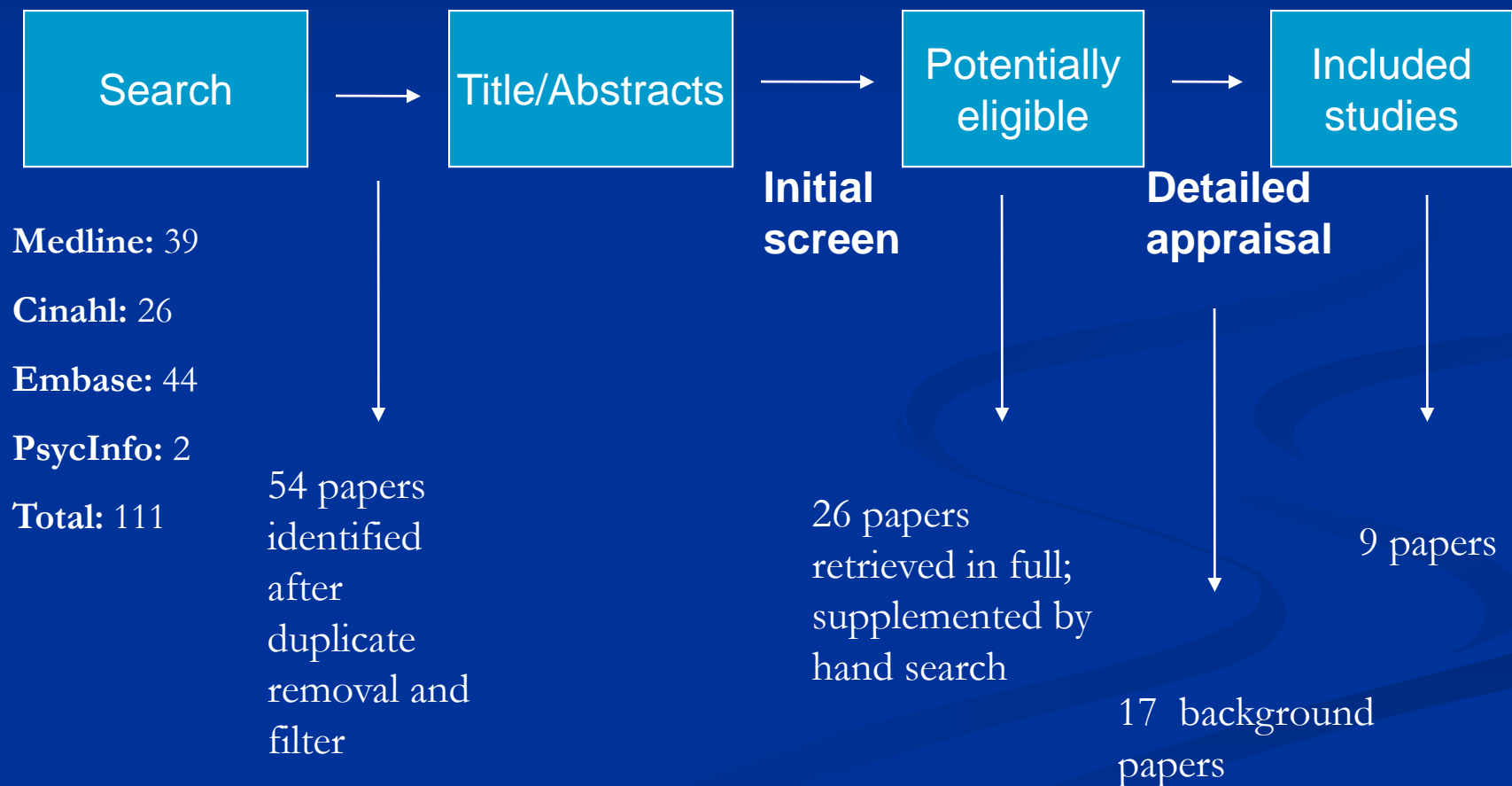
Method

- Databases searched: MEDLINE, EMBASE, CINAHL, PsycInfo
- Used previously established expert search strings and modified them for our purposes to identify relevant information.
- Search limited to indexed and peer-reviewed literature published between January 1996 – October 2007.



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Medline
SCI Pain Self Care
1. *Pain/
2. *pain, intractable/
3. neuropathic pain.mp.
4. nociceptive pain.mp.
5. visceral pain.mp.
6. mixed pain.mp.
7. Breakthrough pain.mp.
8. exp Complex Regional Pain Syndromes/
9. or/1-8
10. exp *spinal cord inj$/
11. self care.mp. or exp Self Care/
12. self management.mp.
13. exp "Activities of Daily Living"/
14. empowering.mp.
15. expert patient.mp.
16. exp Adaptation, Psychological/
17. Coping.mp.
18. holistic health.mp. or exp Holistic Health/
19. health behavior.mp. or exp Health Behavior/
20. illness behavior.mp. or exp Sick Role/
21. exp Life Style/
22. exp Patient-Centered Care/
23. exp Self-Help Groups/ or self help.mp.
24. self efficacy.mp. or exp Self Efficacy/
25. exp Personal Autonomy/
26. exp Self Medication/
27. exp Self Examination/
28. or/11-27
29. 9 and 10 and 28
30. from 29 keep 1-39
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Process of selection and appraisal



Evidence based for Pain Self Management Studies in SCI: MRC Framework for complex interventions

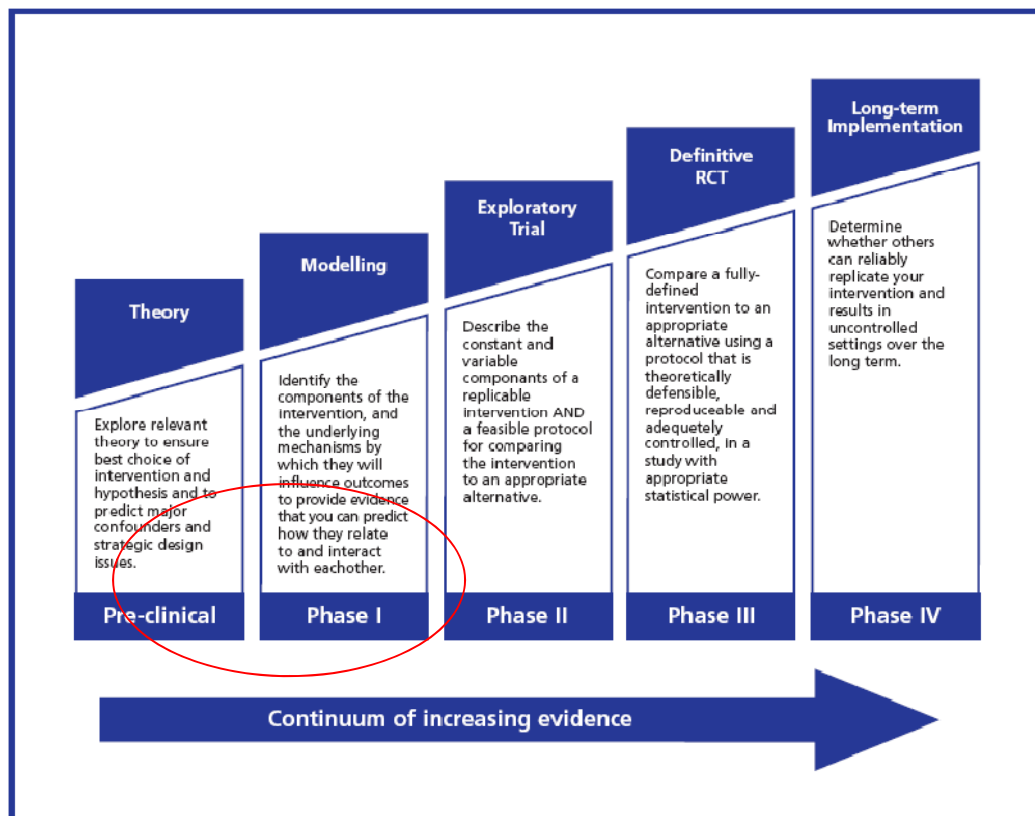


Figure 1: Summary of the MRC model framework for complex evaluations. (Source: MRC (2000) A Framework for development and evaluation of RCTs for complex interventions to improve health. page 3)

Publication	Population/Sample	Design	MRC stage	Intervention	Outcomes and effectiveness	Quality
Norrbrink Budh et al 2006 (SWE)	27 Patients with SCI and neuropathic pain (6 mos ≤), 11 controls	Non randomised controlled study	Phase I/Phase II	Educational sessions (pain) CBT Relaxation, exercise Body awareness 20 sessions/10 wks	Anxiety and depression decreased Sleep quality improved Pain intensity and unpleasantness; HRQoL; life satisfaction n.s. Analgesics use decreased in TG TG and CG had fewer healthcare visits pre-post	Small study; Non randomisation limits effectiveness evaluation
Hughes et al 2006 (USA)	78 (53 intervention) community-living women with disabilities (6% spinal impairments; 27% MS)	Random, waiting control; within- and between groups pretest/posttest design with a 3 months follow-up	Phase II	Stress-Self-Management for Women with Disabilities Program; Stress education; time management; cognitive stress management; social support; assertiveness; relaxation; self care; peer led; 6 2.5 hours	Highly educated sample; 53 assigned to intervention, only 28 attended, 25 completed; perceived stress changed in intervention group; no clear picture regarding pain (pain SF-36); less pain at follow-up (unclear of spinal or MS patients remained)	Complex intervention; pain not primary focus; small sample (attrition); effectiveness for pain unclear
Ehde & Jensen 2004 (USA)	18 (13 intervention) Various disabilities; 10 with SCI	Quasi-experimental	Phase I	Cognitive Restructuring 8 90 minute sessions vs. 8 90 minute session of Group education	Decrease in average pain intensity in CR, not education (pre-post)	Small sample; Substantial attrition; Not SCI-specific; Lack of power; Intervention modified

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Hough & Kleinginna 2000 (USA)	6 (5 male) SCI patients receiving inpatient psychological services	Case studies	Phase I	Individualised relaxation treatment	Patient self reports and staff observations: reduced pain, anxiety	Pre-experimental; specifics of intervention unclear
Craig et al. (1997) (AUS)	28 SCI patients(intervention); 41 controls with SCI	Non randomised control trial	Phase II/III	Group cognitive behavioral therapy(relaxation; cognitive restructuring; distraction; pain-reinterpretation; social skills training; discussions) 10 wks 1.5-2 hr sessions	No significant changes in anxiety and depression between intervention and controls Subgroup analysis showed greater benefits for highly depressed individuals in intervention	Although pain addressed in intervention; it did not feature as outcome measure; uneven group sizes; no substantial levels of depression pretreatment; no follow-up
Ginis et al. (2003) (CAN)	34 individuals with SCI (11 female)- 21 intervention; 13 controls	Randomised control trial	Phase III	Supervised exercise at Health Centre (stretching; resistance exercise)	Adjusted for baseline differences exercisers had less stress and pain than controls; satisfaction with physical function, appearance and depression improved in intervention	Unclear whether formally supervised exercise can count as self management

Study characteristics and quality

- Heterogenous samples
- Small sample sizes
- Diversity of study designs; no RCTs
- Mostly preliminary findings reported
- Substantial study limitations reported by study authors

Effectiveness of pain self management interventions in SCI

- Cognitive-behavioral therapy (CBT) – may hold promise; no controlled effectiveness studies in SCI
- Hypnosis – no controlled effectiveness studies in SCI
- Exercise-based interventions – controlled studies; self management element limited
- Comprehensive pain and stress self management programs – almost non existent; substandard evaluation; outcomes unclear

Barriers in the development, implementation, evaluation

- Focus on physical functioning and other self care areas (bowel, bladder management, skin care)
- Chronic pain not understood as a biopsychophysiological phenomenon
- Professional beliefs about SCI pain
- Cognitive impairments, co-morbidity
- Lack of family, social and carer support
- Need for adaptation and tailoring of self management interventions requires expertise and resources

Potential

- Rehabilitation focus on self management in other areas (bowel, bladder management, skin care) may facilitate active patient orientation
- Evidence-base for some self management elements (relaxation, exercise, CBT) “established” for other chronic pain conditions
- Positive impact on affective correlates of chronic pain (eg anxiety, depression) may produce better functional outcomes and enhance independent living

Conclusions

Thank you!

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