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Background:

- ◆ A significant proportion of people with SCI experience chronic pain (44% ; Walter et al. 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)
- ◆ Prescription medication appears to be unsatisfactory in controlling pain (Widerstroem-Noga & Turk, 2003)
- ◆ Individuals with SCI prefer psychological approaches to chronic pain regulation rather than pharmacological approaches (Wegener & Haythornthwaite, 2001)
- ◆ Successful pain self management may reduce medication dependency, enhance personal control and independence

Objective:

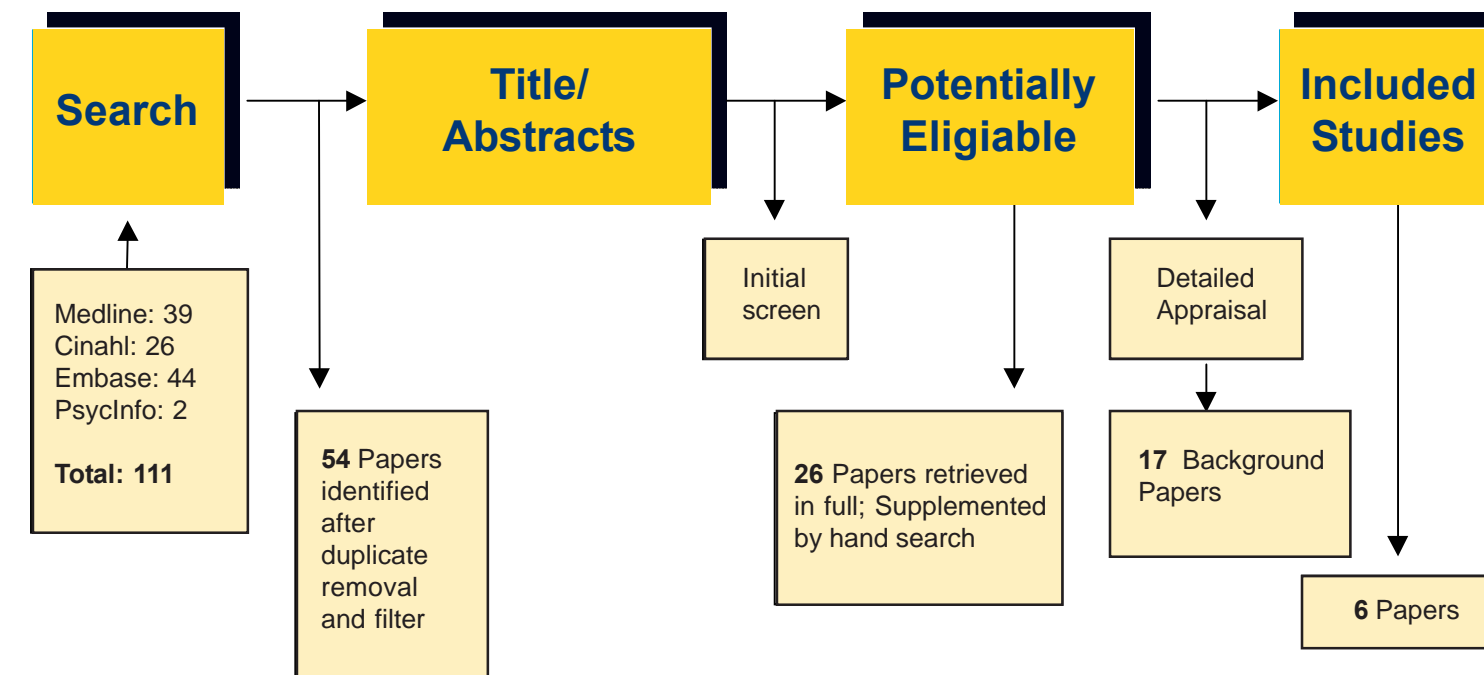
To determine, using a systematic literature review, the evidence base for pain self-management after spinal cord injury

What is "Self-Management"?

"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)

Methods:

- ◆ Databases searched: MEDLINE, EMBASE, CINAHL, PsycInfo
- ◆ Search limited to indexed and peer-reviewed literature published between January 1996 - October 2007.
- ◆ Inclusion Criteria: (1) pain, (2) spinal cord injury, (3) self-care/management and (4) intervention



Results:

The 6 Studies Included

Publication	Population/Sample	Design & MRC Stage	Intervention	Outcomes & Effectiveness	Quality
Norrbrink Budh et al 2006 (SWE)	27 SC & neuropathic pain, 11 controls	Non-RCT Phase I / III	- Educational sessions (pain) - CBT - Relaxation, exercise - Body awareness - 20 sessions / 10 wks	- Anxiety & Depression decreased - Sleep quality improved - Analgesics use decreased in TG - TG & CG had fewer healthcare visits pre-post	- Small study - Non-RCT limits effectiveness evaluation
Hughes et al 2006 (USA)	78 (53 TG) community-living women w/ disabilities (6% spinal impairments, 27% MS)	Random, waiting control; pre/post design w/ 3 month follow up Phase II	- Stress self-management program - Stress education - Time management - Cognitive stress mangmt - Social support - Peer led - 6 x 2.5 hrs	- Perceived stress changed in TG - No clear picture regarding pain - Less pain at follow up	- Highly educated sample - 28 of 53 assigned to intervention attended - Complex intervention - Pain not primary focus - Small sample (attrition) - Effectiveness for pain unclear
Ehde & Jensen 2004 (USA)	18 (13 TG), various disabilities; 10 w/ SCI	Quasi-experimental Phase I	- Cognitive restructuring - 8 x 90 min. sessions v. 8 x 90 min. group education	- Decrease in average pain intensity in CG, not education	- Small sample - Substantial attrition - Not SCI-specific - Lack of power - Intervention modified
Hough & Kleinginn 2000 (USA)	6 (5 male) SCI patients receiving inpatient psychological services	Case studies; Phase I	- Individualized relaxation treatment	- Reduced pain - Reduced anxiety	- Pre-experimental - Specifics of intervention unclear
Craig et al 1997 (AUS)	28 SCI patients (TG); 41 CG; all SCI	Non-RCT; Phase II / III	- Group cognitive behavioral therapy - 10 wks, 1.5-2 hr sessions	- No significant changes in anxiety and depression between TG & CG - Subgroup analysis showed greater benefits for highly depressed individuals in intervention	- Pain was not an outcome measure - Uneven group sizes - No substantial levels of depression pre-treatment - no follow-ups
Ginis et al 2003 (CAN)	34 w/ SCI (11 female); 27 TG, 13 CG	RCT; Phase III	- Supervised exercise at Health Centre (stretching, resistance)	- Exercisers had less stress and pain than controls - Satisfaction w/ physical function, appearance and depression improved in intervention	- Unclear whether formally supervised exercise can count as self-management

Study characteristics and quality

- ◆ Heterogeneous and small sample sizes
- ◆ Diversity of study designs; RCTs rare
- ◆ Phase I and Phase II studies dominate
- ◆ Mostly preliminary findings reported
- ◆ Substantial study limitations reported by study authors (attrition)

Types of self-management interventions

- ◆ Complex, multi-component programs
 - Education
 - Cognitive reappraisal
 - Exercise
 - Social support
- ◆ Cognitive-Behavioral Therapy (CBT)
- ◆ Hypnosis
- ◆ Exercise-focused interventions using goal setting

Effectiveness of pain self-management interventions in SCI

- ◆ Cognitive-behavioural 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
- ◆ Some indication that affective correlates of pain such as anxiety and depression can be reduced through CBT and Exercise programs
- ◆ Direct effect of pain intensity mostly unclear due to lack of quality evaluations

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 (e.g. anxiety, depression) may produce better functional outcomes and enhance independent living

Conclusion:

- ◆ Evidence base for complex or uni-modal self-management for chronic pain in SCI is limited due to (a) few formalized/published programs; (b) lack of standard quality evaluations
- ◆ Potential to develop and adapt interventions that have been developed for other chronic pain populations
- ◆ Patient direction still limited in formalized self-management approaches (eg. Exercise)