



Operationalization of the new Pain and Disability Drivers Management Model: A Consensus study

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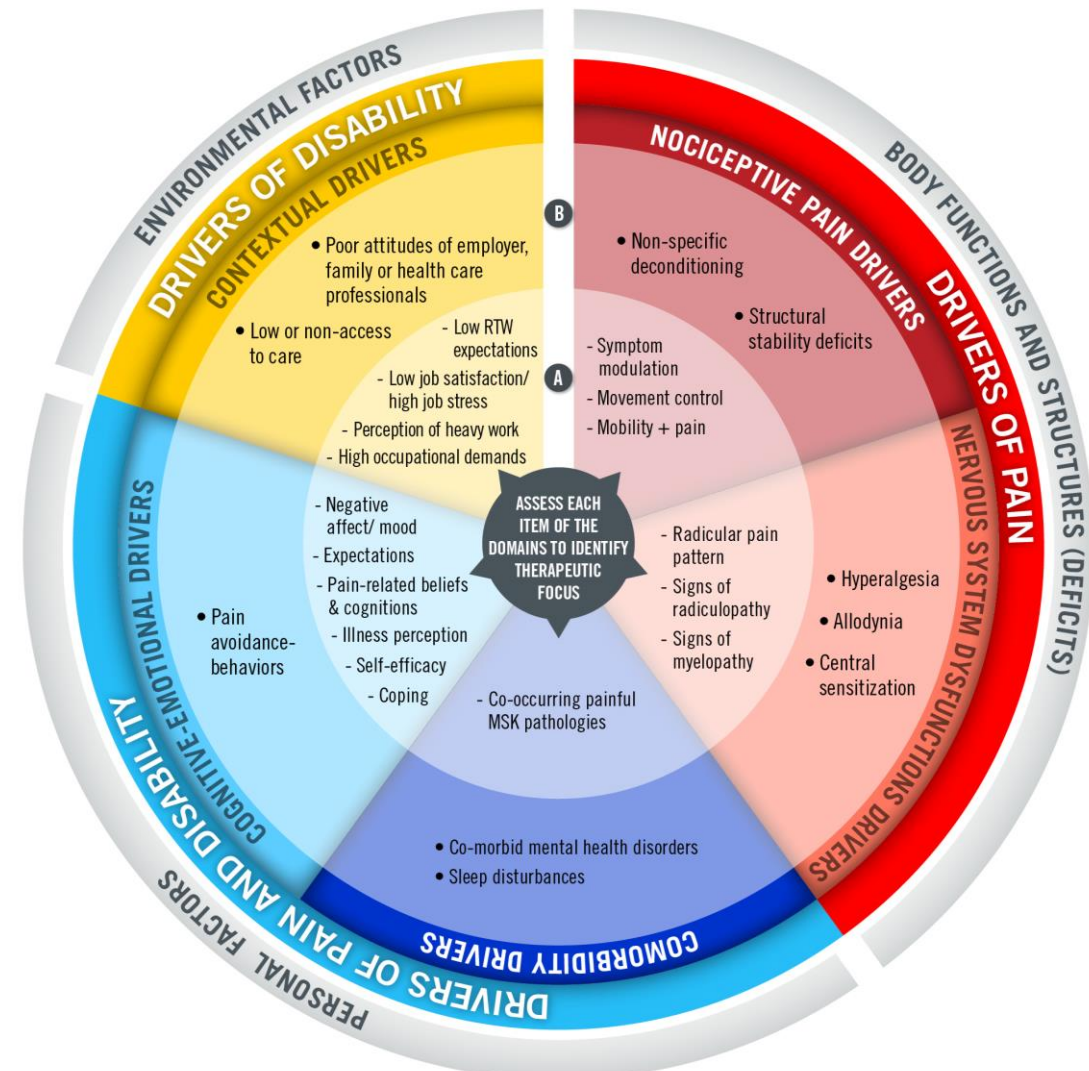
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Background

We recently proposed the *Pain and Disability Drivers Management model* (PDDM), which was designed to outline comprehensive factors driving pain and disability in low back pain (LBP).

Research objectives:

Although we've conceptualized 41 elements which make up the model, we've yet to assess external validation of the elements of the 5 domains of PDDM by expert consensus



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PERSPECTIVES

Rehabilitation management of low back pain – it's time to pull it all together!

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Methodology

Design



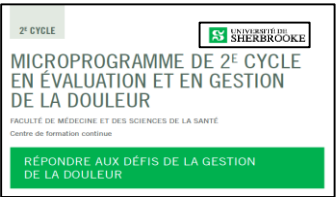
We used a **modified Delphi survey**, a commonly used method to obtain group consensus

Participants

Known experts in pain management



Health professionals experts in the field of musculoskeletal pain management = graduates of two Canadian pain management programs



Online Questionnaire - survey



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"Is it important?"
You are being contacted today because of your expertise in pain management. Are you interested in improving rehabilitation of patients with pain and disabilities related to low back pain? If so, we would like your advice and most importantly, your opinion!
We are inviting you to participate in a research project which aims to validate the Pain and Disability Drivers Management Model (PDDMM). Recently, a team of researchers proposed the PDDMM, a model designed to provide a more comprehensive management of factors driving pain and disability for patients with low back pain - using the link <https://doi.org/10.21469/15.148885> to view the publication. We believe that such a theoretical framework will help clinicians to provide more targeted care according to the predominant domains for a given patient.
Specifically, we would like to seek your opinion as to which elements should be included in the PDDMM model.
You are eligible to participate if:
- You are a health professional who resides/works in Canada or USA, with expertise (above entry level) in the fields of musculoskeletal pain, pain science and/or pain management (at least 10 years of experience in the field of physical therapy, occupational therapy, psychology and medicine including orthopedics and social health).
- Be able to commit to completing 2-3 reports of the Delphi survey within a 2-month timeframe.
- Are proficient in the use of English or French.
If you agree to participate, you will be asked to complete two to three online survey which takes between 20 to 45 minutes each to complete. A \$25 amazon gift card will be sent to you at the end of the survey as a token of our sincere appreciation for your valuable contribution and time.
Thank you for your interest and cooperation! Should you require any further information, please contact 'Narcisse'.

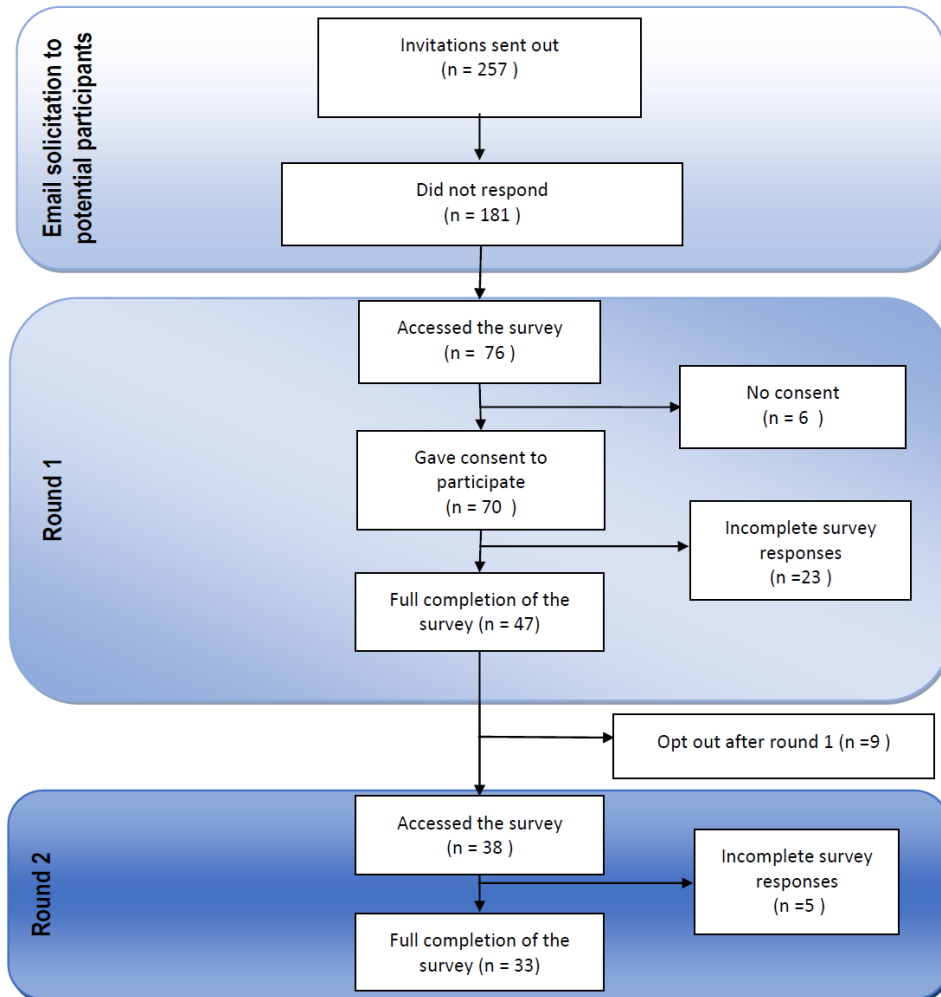
Participants were asked to rate the relevance of each element proposed within the model + propose new elements.

DOMAIN #1: NOCICEPTIVE PAIN DRIVERS						
ELEMENTS	RELEVANCE					
Nociceptive pain with a specific mechanical pattern of pain	STRONGLY IRRELEVANT	1	2	3	4	STRONGLY RELEVANT
Low back pain without any specific mechanical pattern	STRONGLY IRRELEVANT	1	2	3	4	STRONGLY RELEVANT
Nociceptive pain related to identifiable structural stability deficits (ie: post-fracture, post-surgery)	STRONGLY IRRELEVANT	1	2	3	4	STRONGLY RELEVANT
IN YOUR OPINION, FOR THIS DOMAIN, WOULD THERE BE ANY OTHER ELEMENT (TREATMENT MODIFIER) THAT COULD BE INCLUDED WITHIN THIS DOMAIN? IF SO, PLEASE EXPLAIN WHY/HOW.						

Consensus
=
≥75% level of agreement
=
item included

Results

Responses to the online survey



Profile of participant's

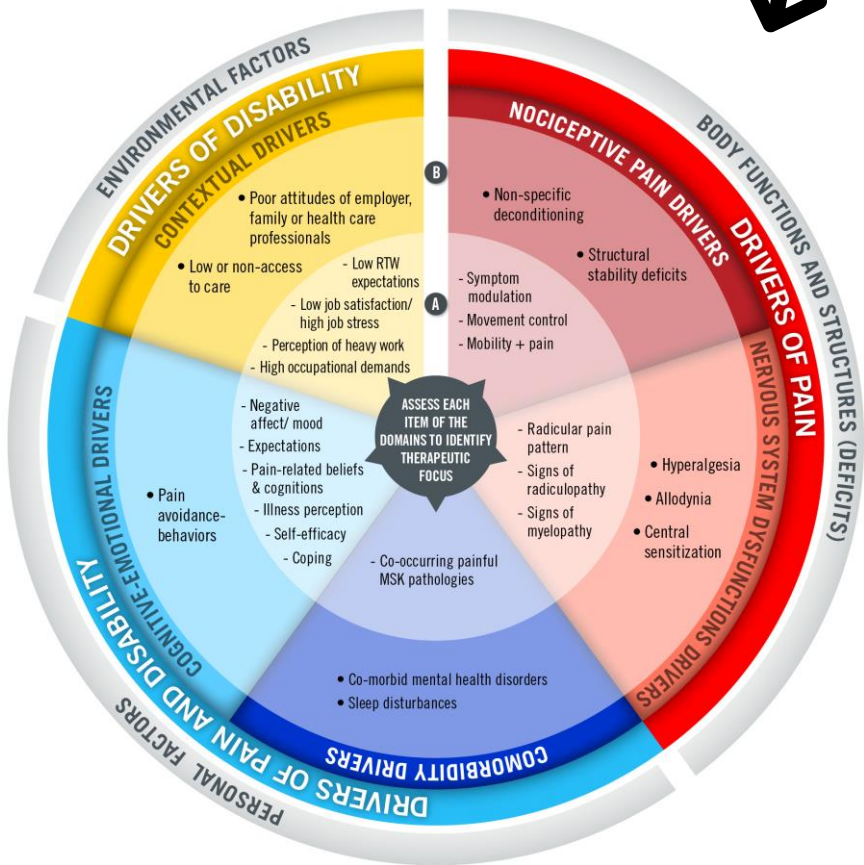
Language	French	23
	English	24
Age	Mean	42.7 y.o
	Range	28 - 64 yo.
Sex	Woman	31
	Man	16
Country of residence	Canada	42
	USA	5
Years of experience	Mean	17
	Range	2 - 40
Occupation (professional title)	Physiotherapist	21
	Occupational Therapist	7
	Clinical nurse	6
	Psychologist	4
	Kinesiologist	2
	Social Worker	2
	Research Assistant	1
	Physical Rehabilitation	1
	Therapist	
	Chiropractor	1
	Clinical Exercise physiologist	1

After the 1st round, 38/41 elements reached consensus and 10 new elements were proposed. After the 2nd round, consensus was reached for the 10 new + 3 remaining elements, generating a final model composed of 51 elements within the 5 domains of the Pain and Disability Drivers Management Model.

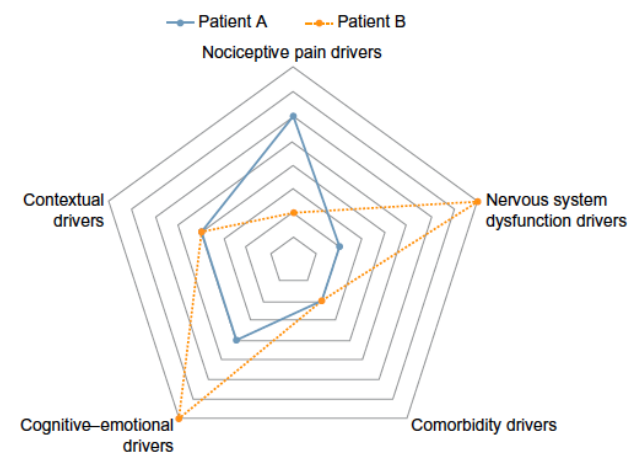
NOCICEPTIVE PAIN DRIVERS		NERVOUS SYSTEM DYSFUNCTION DRIVERS		COMORBIDITY DRIVERS (AS A DOMAIN INFLUENCING THE EFFECT OF OTHER DRIVERS)		COGNITIVE-EMOTIONAL DRIVERS		CONTEXTUAL DRIVERS	
RESPONDERS TO LBP CLASSIFICATION SYSTEM	<ul style="list-style-type: none"> Specific mechanical pattern of pain (96%) 	PERIPHERAL OR CENTRAL SOURCES OF NSD	<ul style="list-style-type: none"> Radicular pain pattern (98%) Tingling/paresthesia or burning/shooting pain (96%) Signs of radiculopathy (98%) Signs of myelopathy (89%) 	PHYSICAL	<ul style="list-style-type: none"> Identified/known co-occurring painful MSK pathologies (98%) Identified/known co-occurring disorders related to pain sensitization, such as: (96%) <ul style="list-style-type: none"> Chronic fatigue, migraines, IBS, fibromyalgia 	MALADAPTIVE COGNITIVE-EMOTIONAL FACTORS	<ul style="list-style-type: none"> Pain catastrophizing (100%) Pain related anxiety (98%) Negative mood (96%) Fear of movement (100%) Pain-related fears (100%) Poor Self-efficacy (100%) High Illness perception (94%) Pain expectations (94%) Negative/low expectation of recovery (98%) Low Pain coping (98%) Poor knowledge relating to pain science (New: 79%) 	WORK CONTEXT	<ul style="list-style-type: none"> Low RTW expectations (94%) Low Job satisfaction (92%) Perception of heavy work (89%) High job stress (98%) High Occupational demands (98%) Job flexibility (94%) Employer's policies regarding RTW are limited or restrictive (100%)
NON-RESPONDERS TO LBP CLASSIFICATION SYSTEM	<ul style="list-style-type: none"> Low back pain without any specific mechanical pattern (Round 1: 66%; round 2: 83%) Nociceptive pain related to identifiable structural stability deficits (post-fracture, post-surgery) (92%) Presence of signs/symptoms of an active inflammatory process (New: 100%) 	NERVOUS SYSTEM HYPER-SENSITIVITY	<ul style="list-style-type: none"> Evidence of increased neural mechanosensitivity (92%) Evidence of hyperalgesia (94%) Evidence of allodynia (98%) Evidence of widespread pain location (77%) Evidence of disproportionate pain intensity in relation to injury (Round 1: 72%; round 2: 100%) Hypersensitivity of senses unrelated to the MSK system (Round 1: 62%; Round 2: 94%) Evidence of sympathetic nervous system dysfunction (i.e. sweating/dryness, skin temperature changes) (New: 100%) Symptoms of dyesthesia (New: 100%) Sleep disturbances secondary to painful symptoms (New: 82%) 	MENTAL HEALTH	<p>The patient shows/has/report:</p> <ul style="list-style-type: none"> Mental health disorders (within the DSM): (98%) Patient-reported sleep disturbances (92%) PTSD (post-traumatic stress disorder) (New: 97%) 	MALADAPTIVE PAIN BEHAVIORS	<ul style="list-style-type: none"> Facial expressions (e.g., grimacing or wincing) (75%) Verbal/paraverbal pain expressions (e.g., pain words, grunts, sighs, and moans). (77%) A guarded posture (e.g., keeping the back straight while lifting). (87%) Bending/rubbing the back after performing an activity. (77%) Completely avoiding to perform a task (98%) Perceived injustice (New: 97%) Perception that medical treatments are still needed or incomplete (New: 91%) Discordance between reported behaviors (by the patient) and observed behaviors (by the therapist) (New: 91%) 	SOCIAL CONTEXT	<ul style="list-style-type: none"> Poor attitudes of employer, family or health care professionals (100%) Low or non-access to care (100%) Communication barriers (New: 91%)

Conclusion

This expert consensus-derived list of clinical elements related to the management of LBP represents a first step in the validation of the PDDM.



Could this model assist clinicians to deliver more targeted care and optimize treatment outcomes in LBP??



Future studies should now identify the best assessment tools for each element of the model