

Necessary components of psychological treatment in pain management programs: A Delphi study

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Abstract

Background: There are various approaches to the psychological management of chronic pain and it is difficult to know which components of psychological therapies are necessary or desirable for the effective management of chronic pain.

Methods: We conducted a Delphi study to develop a consensus on the necessary and desirable psychological intervention strategies for chronic pain management. First, we identified 49 components of treatments that had been used in a treatment evaluated in a randomized controlled trial (RCT) through a systematic review. In the first round of the Delphi process, 23 (32% of 72) authors who had completed RCTs in chronic pain took part. In round 2, these experts plus clinicians working at pain management programs around Australia were invited to take part, and 44 experts completed the study.

Results: The panel agreed that it was necessary to include psycho-education, particularly about pain mechanisms and the role of thoughts in maintaining pain. Cognitive approaches were deemed necessary, although the panel did not specify one particular strategy. Finally, approaches to increase activity were deemed necessary, including the strategies of pacing, goal setting and graded exposure. Relaxation training and relapse prevention were also deemed necessary.

Conclusions: There was a consensus that there were many desirable strategies to include in psychological chronic pain management approaches, but that treatments should include psycho-education, approaches to increase activity and cognitive approaches as a first line of intervention. Where patients fail to benefit from these approaches, experts identified other desirable strategies that could be utilized.

Significance: The expert consensus indicated that psycho-education, strategies to increase activity and cognitive therapy strategies were necessary for effective psychological treatment of patients with chronic pain. While other strategies were deemed desirable, psychological treatments should include at least those three components.

KEY WORDS

behaviour, chronic pain, cognitive, pain management, psychological therapy, therapy

1 | INTRODUCTION

Meta-analyses have confirmed that psychological interventions are efficacious in the management of chronic pain (Astin, Beckner, Soeken, Hochberg, & Berman, 2002; Dixon, Keefe, Scipio, Perri, & Abernethy, 2007; Glombiewski et al., 2010; Hoffman, Papas, Chatkoff, & Kerns, 2007; Veehof, Trompetter, Bohlmeijer, & Schreurs, 2016; Williams, Eccleston, & Morley, 2012). The most recent Cochrane review concluded that although the standard of trials had improved since the previous review, the quality of therapy had not (Williams et al., 2012). Some meta-analyses find evidence favouring cognitive-behaviour therapy (CBT; Glombiewski et al., 2010; Williams et al., 2012), but few trials have compared different psychological interventions. Trials that have compared CBT with mindfulness or acceptance commitment therapy (ACT) have failed to find significant differences on primary outcomes (Cherkin et al., 2016, 2017; Dowd et al., 2015; Wetherell et al., 2011; Zautra et al., 2008). Differences on secondary outcomes vary with some favouring CBT (Cherkin et al., 2016, 2017; Zautra et al., 2008) and others favouring ACT (Wetherell et al., 2011) or mindfulness (Dowd et al., 2015). Interpretation of these findings is complicated by variation in treatments across trials, where the strategies employed across trials of the same psychological approach are not always the same.

Dismantling trials are difficult to conduct and costly. When two active treatments are compared, differences between treatments are small and large studies are needed. For example, Nicholas et al. (2014) compared interoceptive exposure and attention diversion as pain coping strategies offered throughout an intensive 3-week chronic pain management program and found no evidence that either was more effective on patient outcomes. Sharpe and Schrieber (2012) compared CBT with a purely behavioural or cognitive approach for rheumatoid arthritis and showed no benefit of combining behavioural and cognitive treatments. Rather, cognitive strategies appeared to have the broadest effects on outcomes (Sharpe & Schrieber, 2012).

As a result, clinicians and researchers have little basis on which to determine the psychological approaches that should be prioritized. One method for addressing questions when no evidence-base exists is through consensus, by using a Delphi methodology (McKenna, 1994; Powell, 2003). In a Delphi process, researchers conduct a series of rounds (typically 2–4) with experts to develop a consensus (McKenna, 1994; Powell, 2003). Delphi studies have been used to identify consensus definitions of back pain (Dionne et al., 2008), essential components of pain education (Turner & Weiner, 2002), developing scales for therapy quality (Yates, Morley, Eccleston, & Williams, 2005) and guidelines for physiotherapy (Ferguson, Brownlee, & Webster, 2008) and chiropractic

care (Globe et al., 2016). Torrance et al. (2010) conducted a Delphi study about the format and necessary components of pain management programs. They concluded that psychologists were necessary and that self-management was a necessary component of pain management programs, however, the particular strategies that should be included were not specified (Torrance et al., 2010). The aim of this study was to develop a consensus for which strategies are necessary and desirable to be included in psychological approaches to chronic pain management.

2 | METHODS

2.1 | Study design

The Delphi method has been developed as a methodology whereby a consensus among experts in the field can be formally integrated to provide guidelines. This study adopted a modified Delphi technique (McKenna, 1994; Powell, 2003; Trevelyan & Robinson, 2015), which has been utilized by various pain researchers (Dionne et al., 2008; Ferguson et al., 2008; Glombiewski et al., 2010; Torrance et al., 2010; Turner & Weiner, 2002; Yates et al., 2005). In this modified approach, phase 1 consisted of a systematic review of recent literature to identify specific treatment components within randomized controlled trials (RCTs) on chronic pain management from the last decade. A previously published Cochrane Review on psychological therapies for chronic pain (Williams et al., 2012) was used to capture studies from 2006 to 2011. A search of The Cochrane Database from 2011 to 2016 was then conducted on 26th September 2016, using the following search terms: “chronic pain condition” or “chronic pain disorder” or “chronic pain management” or “chronic pain therapy” or “chronic pain treatment”. A total of 32 RCTs on chronic pain management were identified. From these articles, where available, all included treatment components were extracted. These identified treatment components then formed the first round of our Delphi study (see below for details). This study was approved by the University of Sydney's Human Research Ethics Committee.

2.2 | Participants

An international panel of experts in chronic pain management was obtained by contacting the first or senior authors from the list of RCTs generated by the literature search and from existing meta-analyses. Seventy-four experts were contacted by the authors and 22 responded to the first round of the Delphi. The responses were then collated and the final round survey was sent to the same experts who were contacted in the first round. In round 2, we also invited the psychologist from

each pain management program in Australia (46 invitations). We received 42 responses in round 2 from 20 clinician and 22 research experts. The research expert participants came from across 7 countries, including the Netherlands, England, Australia, USA, German, Sweden and Belgium, while the clinicians were Australian. Participation in the Delphi study was anonymous, although respondents could voluntarily leave their name if they wished to be acknowledged.

Of the 74 researchers who were invited to take part in the study, 39 were men. The majority were psychologists ($n = 51$), with 9 physicians, 3 nurses, 2 physiotherapists and 1 occupational therapist. The professional background of the other professionals invited was unclear. Forty-five participants responded to the final round, however, one response was incomplete.

Of the 20 clinicians that took part, 13 were women (65%), the majority (75%) were aged between 40 and 60 and had been working in the profession for a median of 15 years, indicating that they were an experienced group. The majority (18/20) were psychologists, who worked an average of 27 hr/week in pain management ($SD = 11.6$).

2.3 | Data collection

We included an initial phase (phase 1), in which we identified all strategies that had been used in published RCTs of psychological pain management programs to use as a basis for the Delphi study. We then conducted two rounds of the Delphi process (rounds 1 and 2). In phase 1, a list of strategies that had been utilized in RCTs in the pain literature was collated through a systematic literature search. We aimed to err on the side of being overly inclusive and so included any treatment component that was specifically named, as well as calling for any re-wording of the strategies or any additional strategies that had not been identified. In round 1 of the Delphi study, the survey (with the complete list of strategies) was sent to experts, who were identified first or senior authors of published RCTs. In round 2, the same experts were re-contacted to determine a final consensus and the same survey was sent to a different set of experts who had clinical but not necessarily research experience with people with chronic pain to triangulate the data and confirm the consensus.

2.3.1 | Phase 1

Randomized controlled trials were systematically evaluated and all the named strategies that formed part of the described interventions were listed into a single survey. Most of the studies included patients with chronic musculoskeletal pain, with a few studies focusing on arthritis (osteoarthritis and rheumatoid arthritis) and one study on neuropathic pain.

There were a total of 49 individual treatment components for chronic pain management that resulted from our literature search. The components were grouped by themes by the investigator team into 7 types of approaches, the instructions indicated to the participants that the groupings were somewhat arbitrary and that we were interested in the responses to particular strategies. The approaches were as follows: exercise related (8), psycho-education (6), social (9), cognitive (7), pain reduction (5), mindfulness/ACT (6) and other (8).

2.3.2 | Round 1

Participants were presented with a list of treatment components (strategies), grouped by their general approach, and were asked to rate each of them as either “necessary”, “desirable”, “unnecessary”, “potentially harmful” or “unsure what this is”. First, the participant was prompted to determine whether they thought that it was necessary to include strategies related to the particular theme (e.g. psycho-education). Then the participants were asked to make the same judgement about each strategy. The questionnaire offered participants the opportunity to provide a better description for each individual strategy if they thought one was appropriate, as well as an open-ended option to suggest other components they deemed necessary or desirable, as recommended (McKenna, 1994; Powell, 2003; Trevelyan & Robinson, 2015). The list of all treatment components included in round 1 can be found in the Appendices (see Appendix S3). A link to the round 1 questionnaire was sent via email on November 21, 2016. A reminder email was sent on February 2, 2017.

2.3.3 | Round 2

Responses to round 1 were reviewed, and any treatment components that did not reach a predetermined consensus of 70% as *either* necessary or desirable were excluded from further consideration. Consistent with recommendations (Trevelyan & Robinson, 2015), this a priori consensus level was chosen in advance. Novel items suggested by respondents in round 1 were added to the list. The author team circulated the responses and met to discuss the final round. Taken together with new items, the previous items with 70% consensus and suggestions from respondents, the components in round 2 were categorized into 9 themes (approaches): increasing activity (5), psycho-education (10), psychosocial issues (5), methods of managing stress (2), cognitive approaches (8), lifestyle factors (1), third-wave approaches (3), motivational approaches (3) and interoceptive awareness (2) (see Appendix S3 for full list). Following comments from participants in round 1 regarding the heterogeneous nature of individual chronic pain patients, we asked in round 2 if participants would judge

whether the treatment components were “necessary”, “desirable” or “unnecessary” for group pain management programs. Feedback also highlighted that components could be simultaneously necessary and potentially harmful, and as such we included an option to select whether each component may be “potentially harmful” independent of the previous selection. Participants were given feedback about the results of the previous round in terms of consensus, consistent with the Delphi methodology (McKenna, 1994; Powell, 2003; Trevelyan & Robinson, 2015). The responses in rounds 1 and 2 were highly stable. For the sake of brevity, only the full results of round 3 are presented in detail. A link to the round 2 questionnaire was sent via email to researchers on March 9, 2017 (reminder email April 6, 2017) and to clinicians on 24th January 2019 (reminder email 6th February 2019).

3 | RESULTS

3.1 | Overall approaches

We identified seven approaches, each with numerous individual strategies that could be included as a method for incorporating that approach into the intervention. Three of those approaches were deemed to be necessary in pain management: (a) psycho-education (86% consensus); (b) increasing activity (88% consensus) and (c) cognitive approaches (78% consensus) (Data are available in Table 1). All the remaining approaches were deemed by consensus to be at least desirable. The remaining intervention approaches were all endorsed as being desirable by at least 70% of participants: psychosocial issues; stress management; third-wave therapies (i.e. acceptance commitment therapy and mindfulness); lifestyle interventions and motivational interventions.

TABLE 1 Percentage that deemed each overall approach to be necessary; and the cumulative percentage that deemed each overall approach to be necessary or desirable

Approach	Necessary	Desirable
Increasing activity	36/42 (86%)	41/42 (98%)
Psycho-education	37/42 (88%)	41/42 (98%)
Psychosocial Issues	23/42 (55%)	42/42 (100%)
Stress management	27/39* (69%)	38/39 (97%)
Cognitive approaches	32/41* (78%)	41/41 (100%)
Acceptance commitment therapy	11/40* (27%)	35/40 (87%)
Lifestyle interventions	16/40* (40%)	39/40 (97%)
Motivational interventions	17/41* (41%)	36/41 (88%)
Interoceptive interventions	13/41* (32%)	30/41 (73%)

Note: Necessary strategies in pale grey and desirable strategies in darker grey.

*Indicates that this item had some missing values.

3.2 | Individual strategies

3.2.1 | Necessary individual strategies

The individual strategies that were deemed to be necessary for pain management programs are listed in Table 2. Only seven individual strategies were deemed to be necessary by consensus in round 3 (>70% of respondents) and they were as follows: (a) psycho-education about the role of cognitions, expectations and attributions in chronic pain; (b) psycho-education about chronic pain mechanisms; (c) goal setting; (d) graded activity exposure; (e) activity pacing; (f) relaxation training and (g) relapse prevention. With the exception of relaxation, the endorsed strategies reflect two of the three main approaches that were deemed necessary (i.e. increasing activity and psycho-education). None of the cognitive strategies, per se, were endorsed, suggesting that the participants felt that cognitive change could be achieved through a variety of strategies (see Table 3).

3.2.2 | Desirable individual strategies

Although relatively few strategies were endorsed as necessary, the expert panel felt that all strategies that had been retained in round 2 were desirable (see Table 3). For example, 100% of the expert researcher panel deemed cognitive restructuring and pleasant activity scheduling as desirable, and this was also the case for motivational interviewing and education about sleep. More than 90% of the expert panel endorsed communication training in the context of pain behaviours, stress management strategies, self-efficacy enhancement, physical exercise, mindfulness, body awareness training, vocational issues and involvement of a family member as desirable.

Of the respondents who endorsed including a family member in treatment as necessary, 57% (8/14) indicated that there could be the potential for harm in doing so, which was higher than the next most highly rated strategies for harm, which were physical exercise and stretching and strengthening (37% each). There was, however, considerable consensus among those who felt that including a family member in therapy was desirable or necessary about what should be included, 100% (14/14) of respondents indicated that topics should include education about pain mechanisms, goals and strategies of pain treatment, education about pain rehabilitation, psycho-education about how to be supportive to the person in pain and education about how to help change thoughts and behaviours. With regards to interventions specifically for the management of children or adolescents with chronic pain, 100% of respondents thought that including education for parents about operant strategies was important. This item was added by an expert in our Delphi study and we retained

Strategy	Necessary	Desirable	Potentially harmful
Psycho-education about cognitions and chronic pain	39/41* (95%)	41/41 (100%)	2/41 (5%)
Psycho-education about chronic pain mechanisms	38/41* (93%)	41/41 (100%)	4/41 (10%)
Goal-setting	37/41* (90%)	41/41 (100%)	4/41 (10%)
Relapse prevention	34/41* (83%)	41/41 (100%)	1/41 (2%)
Pacing	33/41* (80%)	41/41 (100%)	4/41 (10%)
Graded activity exposure	33/42 (79%)	42/42 (100%)	14/42 (33%)
Relaxation training	29/39* (74%)	37/39 (95%)	2/39 (5%)

*Indicates that this item had some missing values.

it, but since we targeted experts who worked with adults, and had published studies on adults with chronic pain, we do not further consider the role of parents. No other content was widely endorsed, however, one respondent each added that it would be useful to include problem solving or discussing the fear-avoidance model with reference to graded exposure.

4 | DISCUSSION

The aim was to develop a consensus about the necessary components of psychological treatments for chronic pain. In phase 1, we identified 49 components of pain management interventions. In round 1, participants rated each strategy, resulting in 39 strategies that were deemed desirable by consensus. In round 2, from nine approaches, three were deemed necessary, namely: (a) psycho-education, (b) strategies to increase activity and (c) cognitive approaches.

Strategies aimed at increasing activity were considered necessary. Specifically, participants endorsed goal setting, gradual activity exposure and activity pacing. The focus on participants setting goals, gradually approaching them through activity and using strategies to pace themselves is consistent with the core of most pain management approaches. These strategies focus on reducing avoidance which is integral to the maintenance of chronic pain (Crombez, Eccleston, Damme, Vlaeyen, & Karoly, 2012; Vlaeyen & Linton, 2000), allowing people to resume normal function, in a gradual way without increasing the likelihood of a flare-up of pain.

Psycho-education was also endorsed as necessary, specifically psycho-education about chronic pain mechanisms and the role of thoughts in chronic pain. The inclusion of pain education is supported by evidence (Moseley & Butler, 2015), although there is no evidence specifically targeting other psycho-educational topics in chronic pain. However, the role of thoughts in chronic pain allows participants to understand how beliefs affect mood and behaviour and how that affects pain. In the current opioid crisis, psycho-education about medication could be important for those currently

using medication. In this Delphi process, psycho-education about medication was rated necessary by only 61%.

The other approach deemed necessary was cognitive approaches. The use of CBT in pain is strongly supported by meta-analyses (Astin et al., 2002; Glombiewski et al., 2010; Williams et al., 2012), and indeed, most CBT programs combine cognitive approaches with behavioural approaches largely focused on increasing activity. However, there was no consensus on the specific strategies that should be used to bring about cognitive change. Although no specific strategy under the cognitive umbrella met the consensus of necessary, cognitive restructuring and pleasant event scheduling were endorsed as necessary by 63%–68%, and as desirable by 98% of participants. This was higher than other strategies, such as coping skills training (51%), problem solving (49%) or self-talk (41%). It may be that experts believe that the particular technique used to affect cognitive change does not matter, but some strategy to challenge beliefs is important.

Two other strategies were deemed to be necessary. The first was relaxation training that was endorsed by 74% of participants. Relaxation was a commonly included strategy among interventions that were reviewed. While the evidence for relaxation as a stand-alone intervention is absent, a systematic review found moderate-level evidence to support relaxation enhanced by guided imagery, and this should be the preferred form of relaxation (Meeus et al., 2015). Experts also concurred that addressing relapse prevention was necessary. Pain management approaches are typically short term, and many skills are included. Relapse prevention should allow patients to consolidate their skills and allow them to integrate different strategies that have been learned to ensure that therapeutic gains are maintained over time.

Interestingly, there was agreement that other approaches, including the management of psychosocial issues (e.g. family and work-related issues), third-wave therapies (e.g. acceptance commitment therapy or mindfulness), motivational interventions and lifestyle interventions were desirable, according to more than 70% of experts. Some of these interventions are evidence based for chronic pain (e.g. ACT and

TABLE 2 Strategies that were deemed to be necessary and proportions who deemed the strategy to be desirable and/or potentially harmful

TABLE 3 Strategies that were deemed to be desirable but not necessary and proportions who deemed the strategy to be necessary and/or potentially harmful

Strategy	Necessary	Desirable	Potentially harmful
Stress management strategies	27/39* (69%)	38/39 (97%)	1/39 (3%)
Pleasant activity scheduling	28/41* (68%)	40/41 (98%)	0/41 (0%)
Physical exercise	26/41* (63%)	40/41 (98%)	15/41 (37%)
Cognitive restructuring	26/41* (63%)	40/41 (98%)	2/41 (5%)
Psycho-education about medication	25/41* (61%)	40/41 (98%)	3/41 (7%)
Psycho-education about sleep	23/41* (56%)	41/41 (100%)	1/41 (2%)
Self-efficacy enhancement	21/38* (55%)	36/38 (95%)	0/38 (0%)
Coping skills training	21/41* (51%)	35/41 (85%)	0/41 (0%)
Stretching and strengthening	20/41* (49%)	36/41 (88%)	12/41 (29%)
Problem solving	20/41* (49%)	40/41 (98%)	0/41 (0%)
Psycho-education about comorbidities	18/41* (44%)	37/41 (90%)	2/41 (5%)
Self-regulation	18/41* (44%)	29/41 (71%)	0/41 (0%)
Self-talk	17/41* (41%)	31/41 (76%)	0/41 (0%)
Communication training	16/41* (39%)	40/41 (98%)	3/41 (7%)
Motivational interviewing	14/38* (37%)	36/38 (95%)	0/38 (0%)
Mindfulness	12/35* (34%)	34/35 (97%)	3/35 (9%)
Values clarification	12/35* (34%)	32/35 (91%)	1/35 (3%)
Vocational issues	13/41* (32%)	37/41 (90%)	3/41 (7%)
Habit modification	10/39* (26%)	34/39 (87%)	1/39 (3%)
Meditation	7/35* (20%)	27/35 (77%)	2/35 (6%)
Interpersonal/assertiveness	8/41* (20%)	37/41 (90%)	2/41 (5%)
Body awareness training	5/31* (16%)	30/31 (97%)	1/31 (3%)
Psycho-education about managing relationships	6/40* (15%)	36/40 (90%)	4/40 (10%)
Involvement of a family member	6/41* (15%)	39/41 (95%)	15/41 (37%)

*Indicates that this item had some missing values.

mindfulness, Veehof et al., 2016), whereas for others there is a lack of quality evidence for efficacy (e.g. motivational interviewing, see Alperstein & Sharpe, 2016). Although a consensus is neither correct nor incorrect, these data suggest that these approaches are options for patients who fail to benefit from the necessary approaches identified here.

Indeed, most intervention strategies were deemed desirable to be included by the experts and this was true of both those who were primarily researchers and clinicians. One reason for the large number of strategies deemed desirable may be that these strategies are often used synergistically or chosen based on the individuals' needs. We tried to separate out approaches and strategies in a meaningful way to identify the core therapeutic skills, but categories are always to some

extent arbitrary. Nevertheless, these results have important implications for clinical practice and research.

The results suggest that at a minimum, psychological approaches to chronic pain management should include psycho-education about pain and the relationship between pain and thoughts, cognitive approaches and approaches to increase activity including graded exposure, pacing, increasing pleasant activities and goal setting, as well as relapse prevention and relaxation. However, we need research to investigate the relative efficacy of novel treatments against these approaches. Future research needs to progress from single-arm treatment studies against passive controls, and compare active treatments to each other. This will allow us to understand whether one approach is superior to another

or whether different approaches are simply different ways of achieving the same aim. Moreover, large head-to-head trials of different therapy approaches could identify characteristics of patients who benefit more from one or another approach.

The need for further research does not negate the need for clinicians to have a clear indication of what strategies should be included when patients with chronic pain present for treatment. Our results suggest that it is desirable to include multiple components. Experts identified 24 different desirable strategies. Intensive multidisciplinary approaches can deliver interventions with many components. The results of this study suggest that broad-based programs be implemented in these intensive settings. However, there are barriers to accessing these programs due to the level of expertise required, the amount of available intervention and the resulting cost (see Gatchel, McGeary, McGeary, & Lippe, 2014). The Delphi process suggests that where intensive multidisciplinary programs are not available, and a psychological approach to pain management is deemed appropriate, a combination of psycho-education about pain mechanisms, the role of thoughts in pain, increasing activity using activity pacing, cognitive approaches, relaxation and relapse prevention would be the necessary components of a first-line, psychological approach to chronic pain management. Considering the development of briefer programs, potentially where some element is self-directed, could be considered as part of a stepped care model (Sharpe, 2016).

Although carefully conducted, our study is not without limitations. Firstly, a Delphi process offers a low level of evidence because it is based on consensus. There are other methodologies that can also provide important information about best practice, including RCTs, individual case designs and prediction of outcome studies. While this is a limitation, it is notable that research supports the necessary components of the programs including psycho-education in pain mechanisms (Moseley & Butler, 2015), cognitive approaches (Sharpe & Schreiber, 2012) and increasing activity (Hayden, Van Tulder, & Tomlinson, 2005). Secondly, although we did contact all authors of trials, many authors are likely to have moved and therefore the response rate was not optimal (32%). It is also the case that our search concluded in 2016 and our sample consisted predominantly of psychologists. Therefore, proponents of newer therapies may have been under-represented and other non-psychological approaches may not have been identified. Thirdly, there were ways in which we could have further optimized the Delphi process, such as conducting a more formal pilot of initial items and having a Likert-type scale to get more data than simply consensus. We did not include patients in our Delphi study and, of course, patient preferences are important in clinical practice, although they tell us less about the efficacy of particular strategies since psychological treatments have non-specific factors that also affect their efficacy.

It should be noted that some respondents indicated that some specific strategies could be harmful. For graded activity exposure this was as high as 33%. It has been documented that many clinicians prefer not to use exposure for fear of negative impacts (see Olatunji, Deacon, & Abramowitz, 2009). Therefore, this could be a result of researcher or clinician fear, rather than an indication of likely harm. However, a recent meta-analysis showed that few studies measure adverse events in psychological trials (see Palermo, Slack, Loren, Ecclestone, & Jamison, 2020). The onus is on researchers to demonstrate whether or not this is the case (Sharpe, 2020).

In conclusion, this Delphi study suggested that the necessary components were psycho-education, increasing activity and cognitive approaches. Participants did not endorse any cognitive therapy strategies, per se, as necessary. Experts agreed that psycho-education should be provided at least about pain mechanisms and the role of thoughts in chronic pain. In addition, strategies such as goal setting, activity pacing, relaxation and graded activity exposure should be included. It was also deemed necessary to include relapse prevention and relaxation. These results should be helpful to clinicians offering pain management services outside of an intensive rehabilitation setting where they need to prioritize certain strategies and to researchers developing pain management interventions against which to compare other novel and promising interventions.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to acknowledge.

AUTHOR CONTRIBUTIONS

LS developed the idea for the study. All authors contributed to the development of the Delphi rounds, LS and EJ collected and analysed the data. All authors contributed to the interpretation of the data. LS wrote the first draft of the manuscript and all authors commented in the draft.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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