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Preferred self-administered questionnaires to assess fear of movement, coping, self-efficacy, and catastrophizing in patients with musculoskeletal pain—A modified Delphi study

Marije L.S. Sleijser-Koehorst[a,b], Lisette Bijker[a,c], Pim Cuijpers[c], Gwendolyne G.M. Scholten-Peeters[a,b], Michel W. Coppieters[a,d,e,*]

Abstract

The way people with musculoskeletal disorders deal with pain influences their prognosis. Psychosocial factors that influence outcomes include fear of movement, coping, self-efficacy, and catastrophizing. A 3-round modified Delphi study was conducted with the aim to reach consensus on the most appropriate questionnaires to assess these 4 psychosocial factors in patients at risk of developing persistent musculoskeletal pain. The panel consisted of 36 experts, with track records in medicine, psychology, and allied health. To be considered an expert, a minimum number of authorships were required on research articles using self-administered questionnaires to assess these psychosocial factors in relevant patient populations. In round 1, the experts proposed 30 questionnaires to assess the 4 factors. In round 2, experts rated the questionnaires on suitability, considering clinimetric properties, content, feasibility, personal experiences, and expertise. The highest ranked questionnaires (maximally 5 per factor) were retained for round 3, in which the experts made a final assessment of the questionnaires and provided their positive and negative experiences with the questionnaires. Consensus was reached for the following questionnaires to assess (1) fear of movement: Fear Avoidance Beliefs Questionnaire and Tampa Scale (full version or 11-item version); (2) coping: Coping Strategies Questionnaire (initial or revised version) and Chronic Pain Coping Index; (3) self-efficacy: Pain Self-Efficacy Questionnaire (full version or 2-item version); and (4) catastrophizing: Pain Catastrophizing Scale and the revised version of the Coping Strategies Questionnaire. Although other questionnaires can be considered in specific circumstances, these questionnaires are recommended in people with musculoskeletal pain.

Keywords: Low back pain, Neck pain, Psychosocial factors, Instrument, Measurement, Delphi

1. Introduction

Musculoskeletal pain, such as neck pain and back pain, is common, with a prevalence of approximately 30% (ranging from ~14% to 47%) and an incidence of 8.3% per year.[5] Musculoskeletal pain is a major cause of disability and often leads to sick leave and disability

pensions.[5,14] The way people deal with musculoskeletal pain influences their prognosis.[3,4,7,8,13,15,19] Besides depression and anxiety, psychosocial factors related to dealing with pain, such as fear of movement, pain catastrophizing, low self-efficacy, and passive pain coping, are important for clinicians and researchers to take into account.[3,7]

Many instruments are available to assess these psychosocial factors. Some questionnaires were specifically developed and validated for use in specific patient groups, such as people with depression or chronic pain (other than musculoskeletal pain). This is important to consider because this potentially influences the suitability of the questionnaire for use in patient with musculoskeletal pain. In addition, the length and usability of the questionnaires varies widely. The plethora and variability in questionnaires make it difficult for clinicians and researchers to determine which questionnaires are most suited to measure these factors in patients with musculoskeletal pain.[11,12,17,18]

Therefore, this study aimed to reach consensus on the most relevant and feasible self-administered questionnaires to assess 4 psychosocial factors that concern dealing with pain (fear of movement, coping, self-efficacy, and catastrophizing), for patients at risk of developing persistent musculoskeletal pain (eg, back pain and neck pain) in primary care.

2. Methods

2.1. Design

We conducted a modified Delphi study to identify and reach consensus on the most appropriate self-administered questionnaires to assess psychosocial risk factors in patients with

musculoskeletal pain. The study focused on 4 risk factors for poor recovery: fear of movement, coping, self-efficacy, and catastrophizing.

Parallel to this study, a separate Delphi study was conducted that focused on 3 other psychosocial factors: depression, anxiety, and somatization (Bijker et al., *in preparation*). The Delphi studies were conducted separately, and experts were approached independently for each study. Because the topics of the Delphi studies were closely related, some experts met the criteria for both studies and were invited to participate in both studies. Twelve of the 36 experts participated in both Delphi studies.

The study was approved by the local human ethics committee (VCWE-2016-223; Scientific and Ethical Review Board, Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam).

2.2. Expert panel

We used PubReMiner in the PubMed database for the preliminary identification of potential experts. The search strings are described in Appendix A (available online at http://links.lww.com/PAIN/A689). Experts were eligible to participate in the expert panel if they met the following predetermined criteria: (1) they authored 6 or more articles published in peer-reviewed journals, assessing at least one of the 4 psychosocial risk factors using self-administered questionnaires in a musculoskeletal pain or persistent pain population, and (2) were able to complete the surveys for the 3 Delphi rounds in the suggested timeframe (February–August 2017). The expert criteria were determined in a focus meeting of researchers (N = 5) with a psychology or allied health background.

There are no guidelines on the optimal number of experts to ascertain a reliable and valid consensus process. The number of experts is considered less important than their expertise and experience.[9,10,16] Delphi studies with expert panels of approximately 20 experts typically result in stable and reliable results.[10] Therefore, we aimed to form a panel of at least 20 experts.

2.3. Procedure

The number of rounds was predetermined at 3. For each round, anonymous electronic surveys were used to collect the data (Software version 2017; Qualtrics, Provo, UT). After each round, nonresponders were sent electronic reminders 1 and 2 weeks after the first invitation. In each round, the experts had the possibility to omit one or more of the 4 domains (fear of movement, coping, self-efficacy, and catastrophizing) if they did not consider themselves an expert for that particular domain. For the omitted domain(s), the experts were asked to provide reasons why they preferred to skip the domain.

2.4. Round 1

In round 1, the experts were asked to list the self-administered questionnaires that they regarded as relevant to identify fear of movement, coping, self-efficacy, and catastrophizing in patients with musculoskeletal pain. The questionnaires had to be suitable for clinical use by health practitioners who are not trained as mental health practitioners.

Two investigators (M.L.S.S.-K. and L.B.) retrieved all suggested questionnaires, and identified and summarised the clinimetric properties of each questionnaire (ie, internal consistency, test–retest reliability and construct validity in a relevant target population, and feasibility [eg, time to complete and comprehensiveness]).

2.5. Round 2

In round 2, an overview of all questionnaires that were suggested in round 1 was supplied electronically to the experts, together with the information about their clinimetric properties. Experts were asked to rate the suitability of each questionnaire on an 11-point Numeric Rating Scale, ranging from "*totally unsuitable*" (zero) to "*totally suitable*" (10) for patients with musculoskeletal pain, such as back pain and neck pain. Experts were asked to consider the clinimetric properties, content, feasibility, expertise, and personal experiences with administering the questionnaire in their ratings. No individualised feedback from round 1 was provided to the experts.

After round 2, the percentage of experts who rated the questionnaire higher than a 7 on the 11-point suitability rating was calculated, and the questionnaires were ranked accordingly. For a questionnaire to be retained for round 3, this percentage had to be at least 50%.

2.6. Round 3

In round 3, the highest ranked questionnaires (maximally 5 for each psychosocial factor) were presented to all experts. First, experts were asked through a "Yes/No/Don't know" question whether they considered the instrument suitable to assess the specified psychosocial factor in patients with musculoskeletal pain. Second, the experts were asked to share any positive or negative experiences with using the instruments.

The results of round 3 were analysed both quantitatively and qualitatively. The percentage of experts that rated the questionnaire as suitable was calculated based on the "Yes/No/Don't know" score, for each questionnaire that was rated by at least 50% of the experts. The "Don't know" scores were not considered in the calculation of the percentage. Consensus on suitability of a questionnaire was reached if there was an agreement of at least 75% of experts who rated the questionnaire (Yes/No).

All experts who completed round 1 were asked to participate in round 3, regardless of whether they completed round 2. Therefore, sensitivity analyses were performed to determine whether the outcome would have been different if only the data provided by experts who participated in all rounds were taken into account.

Because most experts were in some way involved in the development and/or validation of questionnaires in psychosocial domains, we performed a sensitivity analysis to determine whether this would have influenced the results. We excluded experts who were involved in the development and/or validation of a questionnaire from the analyses for that specific questionnaire and recalculated agreement percentages.

The positive and negative experiences that the experts described were independently assessed by 2 investigators using thematic content analyses (L.B. and M.L.S.S.-K.).[6] Both investigators determined the themes raised by the experts. If the identified themes differed and only when the 2 investigators could not reach consensus through discussion, a third investigator (G.G.M.S.-P.) was consulted.

3. Results

3.1. Expert panel

The search using PubReMiner identified 990 potential experts, of which 871 people did not meet the predetermined criteria. The remaining 119 experts were invited to participate, and 36 experts

participated in the study (response rate 30.3%; **Fig. 1**). The participating experts were based in North America and Europe. The most common professional backgrounds were allied health (N = 10), psychology (N = 7), and medicine (N = 6). Collectively, the experts published more than 6000 articles. Most of the experts (86%) participated in the development, translation, and/or validation of one or more questionnaires in one of the 4 psychosocial factors (**Table 1**).

3.2. Round 1

In round 1, 8 questionnaires were proposed for fear of movement, 11 for coping, 5 for self-efficacy, and 6 for catastrophizing. An overview of all suggested questionnaires is provided in **Table 2**. Nil (catastrophizing) to 10 (coping) panel members did not consider themselves an expert for a particular factor and therefore omitted the domain (**Table 2**).

3.3. Round 2

The response rate for round 2 was 72%. The percentage of scores that were higher than 7 on the 11-item Numeric Rating Scale for suitability for each questionnaire is presented in **Table 2**. The top 5 questionnaires were retained for round 3 for fear of movement and coping. For self-efficacy and catastrophizing, a top 3 and top 2 were retained, respectively, because less than 50% of experts graded the other questionnaires with a score higher than 7 on the suitability rating scale (**Table 2**).

3.4. Round 3

The response rate for round 3 was 69%. For each psychosocial factor, consensus was reached for 2 or 3 questionnaires, which could be recommended for use (**Table 3**).

3.4.1. Fear of movement

The panel reached consensus on the suitability of the Fear Avoidance Beliefs Questionnaire (FABQ), the Tampa Scale for Kinesiophobia (TSK), and the eleven-item version of the TSK (TSK-11). Because most experts were unfamiliar with the NeckPix questionnaire, no consensus could be reached on the suitability of this questionnaire. However, both experts who rated the NeckPix questionnaire considered it suitable. The Chronic Pain Acceptance Questionnaire (CPAQ) was deemed unsuitable by 83.3% of the experts who scored the questionnaire. However, the number of experts who rated this questionnaire was too low (ie, <50%), and therefore, no recommendation could be made for this questionnaire (**Table 3**).

3.4.2. Coping

The panel reached consensus on the suitability of the Coping Strategies Questionnaire (CSQ), the revised version of the CSQ (CSQ-R), and the Chronic Pain Coping Inventory (CPCI). Although the experts who scored the Brief Pain Coping Inventory predominately found the questionnaire to be suitable, the number of experts who scored the list was too low to consider the questionnaire for recommendation. No consensus was reached on the suitability of the Pain Self-Efficacy Questionnaire (PSEQ) for measuring coping (**Table 3**).

3.4.3. Self-efficacy

The panel reached consensus on the suitability of the PSEQ and the 2-item version of the PSEQ (PSEQ-2). Because the number of experts who rated the Chronic Pain self-efficacy Scale (CPSS) was too low, a recommendation could not be made for this questionnaire. However, all experts who scored the CPSS agreed that it was suitable for measuring self-efficacy (**Table 3**).

3.4.4. Catastrophizing

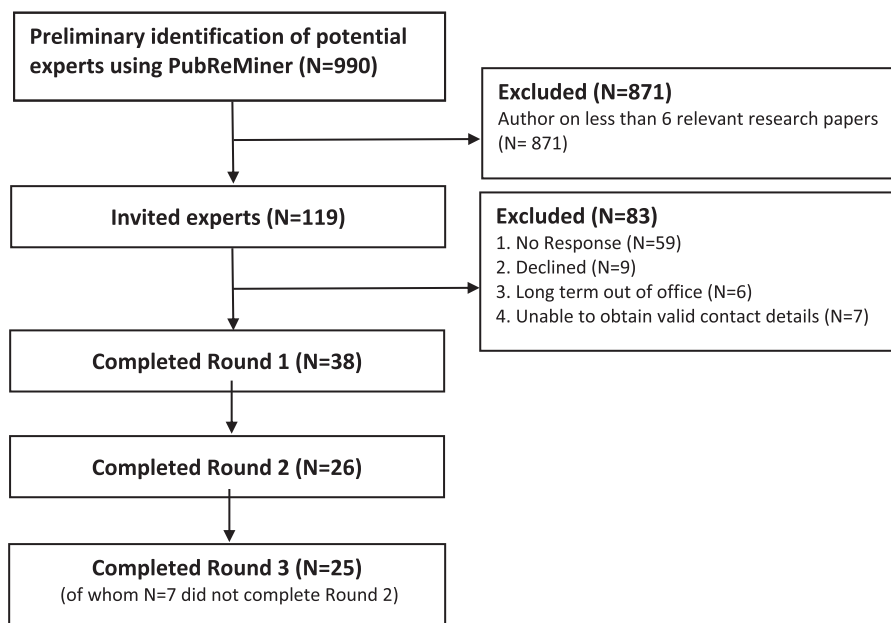The panel reached consensus on the Pain Catastrophizing Scale (PCS) and the CSQ-R (**Table 3**).

Figure 1. Flowchart of the Delphi study.

Characteristics of the expert panel.

Expert panel (N = 36)	N (%)
Age mean (SD)	52.9 (9.5)
Gender (male)	20 (55.6)
Education*	
Master's degree	36 (100)
PhD	32 (88.9)
Professional background*	
Medicine	6 (16.7)
Psychology	7 (19.4)
Allied health	10 (27.8)
Researcher with another background than medicine, psychology, or allied health	18 (50.0)
Place of work*	
University or other research institute	34 (94.4)
Hospital	11 (13.9)
Primary care	3 (8.3)
Other	4 (11.1)
Years of work experience, mean (SD)	
In research (N = 32)	21.8 (8.7)
In clinical practice (N = 32)	20.8 (12.6)
Participated in development, translation, and/or validation of a questionnaire in psychosocial domain? (yes)	31 (86.1)
Country of work	
United States of America	11 (30.6)
Europe	25 (69.4)
Expertise*	
Fear of movement	26 (72.2)
Coping	16 (44.4)
Self-efficacy	19 (52.8)
Catastrophizing	29 (80.6)

* More than one option could be selected.

3.5. Sensitivity analyses

Seven experts who participated in round 3 did not participate in round 2. Therefore, we conducted sensitivity analyses of the quantitative results of round 3, in which the responses of these 7 experts were not taken into account. The sensitivity analyses showed that the ranking of the questionnaires, consensus level, and suitability did not differ meaningfully. For all factors, consensus was reached for the same questionnaires, and the consensus level was comparable with the full group results. For fear of movement, self-efficacy, and catastrophizing, the ranking of the questionnaires did not differ. For coping, the CSQ, CSQ-R, and CPCI were ranked in the top 3 in both the complete groups and the sensitivity analyses, but the order differed. In the complete group analysis, the CPCI achieved the highest level of consensus, and in the sensitivity analysis, the CSQ-R was ranked highest. Consensus levels were comparable in both groups for all 3 questionnaires. For a more elaborate overview of the sensitivity analysis results, see Appendix B (available online at http://links.lww.com/PAIN/A689).

In addition, we performed sensitivity analyses to determine whether the recommendations would differ if the experts who participated in development and/or validation of a questionnaire were excluded from the analyses. The results of the sensitivity analysis did not show substantial differences. The same questionnaires reached consensus, in the same order, with

comparable agreement percentages. An overview of the sensitivity analysis results is shown in Appendix C (available online at http://links.lww.com/PAIN/A689).

3.6. Qualitative data analyses

3.6.1. Fear of movement

Some experts expressed concerns about the factor structure and validity of the FABQ and the TSK. For example: "*Some questions (of the FABQ) do not appear to fit the structure well*" and "*(The FABQ) does not account for the entire range of fear about pain.*" "*(The TSK) is not focused enough on the influence of thoughts and actual avoidance patterns. Patients with a lot of fearful thoughts might not avoid (movement) and vice versa.*" The experts found the FABQ, TSK, and TSK-11 instruments feasible for patients, clinicians, and researchers, although the questions of the TSK and TSK-11 that were scored reversely were described as somewhat unclear. The CPAQ was generally described as a feasible instrument. However, some experts questioned its validity (eg, "*[The CPAQ] is not a measure of pain-related fear*"). Most experts were unfamiliar with the NeckPix questionnaire. The 2 experts who were familiar with the questionnaire found it to be a "*good questionnaire for chronic neck pain patients*" and reported no negative experiences with it.

3.6.2. Coping

The experts considered the CSQ, CSQ-R, and CPCI to be useful for measuring coping because of the clinimetric properties and usability. Several experts preferred the CSQ-R over the CSQ because of its feasibility. One expert found the CSQ and CSQ-R to be outdated (eg, "*Not up to date with current theories*"). The PSEQ was described as "*a good measure of pain self-efficacy, not coping.*" And although general experiences with the Brief Pain Coping Inventory were positive, it was not the preferred instrument to measure coping (eg, "*I believe there are better measures of the behaviour patterns included here, particularly for research*").

3.6.3. Self-efficacy

For self-efficacy, 3 experts questioned the relevance and the validity of the construct. They argued that self-efficacy is "*not a precise and progressive concept,*" and that the construct has not been thoroughly demonstrated to be "*distinct from the construct of fear of pain.*" Some experts concluded that "*we need to move beyond this kind of variable*" because "*self-efficacy research is a dead end.*" Both versions of the PSEQ were favoured over the CPSS for measuring self-efficacy, mainly because of the sound clinimetric properties and theoretical foundation. One expert, however, described the PSEQ to be "*too close in item content to measuring disability.*" The PSEQ-2 was deemed too limited by one expert. Both versions were deemed feasible, especially the 2-item version. For the CPSS, no negative experiences were reported.

3.6.4. Catastrophizing

The PCS was preferred over the CSQ-R, mainly because the PCS was believed to be more specific to measure catastrophizing than the CSQ-R. The PCS was considered feasible, valid, and

Table 2

Results for round 1 and 2.

Questionnaire	Round 1 count	Round 2 % scores >7	Retained for round 3
Fear of movement: N = 31*			
Tampa Scale of Kinesiophobia (TSK)	22	87.5	Yes
Fear Avoidance Belief Questionnaire (FABQ)	16	83.3	Yes
Tampa Scale of Kinesiophobia—11 items (TSK-11)	1	79.2	Yes
NeckPix	1	55.6	Yes
Chronic Pain Acceptance Questionnaire (CPAQ)	1	55.0	Yes
Photograph series of daily activities (PHODA)	4	50.0	No
Pain Anxiety Symptoms Scale (PASS)	4	45.0	No
Fear of Pain Questionnaire (FPQ-III)	2	35.0	No
Coping: N = 26*			
Coping Strategies Questionnaire—revised version (CSQ-R)	3	73.7	Yes
Brief Pain Coping Inventory (BPCI)	2	61.9	Yes
Pain Self-Efficacy Questionnaire (PSEQ)	2	61.9	Yes
Chronic Pain Coping Inventory (CPCI)	4	61.1	Yes
Coping Strategies Questionnaire (CSQ	10	54.2	Yes
Pain Coping Inventory (PCI)	3	50.0	No
Vanderbilt Pain Inventory Questionnaire (VPMI)	6	33.3	No
Pain Solution Questionnaire (PaSol)	1	26.7	No
Coping Strategies Inventory (CSI)	1	19.7	No
Illness Cognitions Questionnaire (ICQ)	1	12.5	No
Ways of coping checklist (WCCL)	1	6.7	No
Self-efficacy: N = 28*			
Pain Self-Efficacy Questionnaire (PSEQ)	20	87.0	Yes
Pain Self-Efficacy Questionnaire—2 item version (PSEQ-2)	1	66.7	Yes
Chronic Pain Self-Efficacy Scale (CPSS)	4	57.9	Yes
Illness Perception Questionnaire (IPQ)	1	26.7	No
Self-Efficacy Scale (SES)	3	23.5	No
Catastrophizing: N = 36*			
Pain Catastrophizing Scale (PCS)	34	96.0	Yes
Coping Strategies Questionnaire—revised version (CSQ-R)	1	65.0	Yes
Coping Strategies Questionnaire (CSQ)	6	41.7	No
Pain coping and cognition list (PCCL)	1	30.8	No
Pain cognition list (PCL)	1	28.6	No
Pain Anxiety Symptoms Scale (PASS)	1	21.1	No

* N provided is the number of experts adjusted for the panel members who did not consider themselves as an expert for this factor.

responsive to change. Moreover, the PCS was described as "*useful in a broad range of chronic pain conditions and (…) in healthy participants.*" Contrary, the PCS was considered to be "*quite long*" and "*suggestive.*" Several experts questioned the validity of the CSQ-R to measure catastrophizing (eg, "*Unclear validity as a standalone instrument for catastrophizing,*" "*The CSQ simply has too much irrelevant content*" and "[*The CSQ-R*] *does not measure catastrophizing*").

A more elaborate overview of the positive and negative experiences of the experts with each questionnaire is provided in Appendix D (available online at http://links.lww.com/PAIN/A689).

4. Discussion

In the initial round of this modified Delphi study, the experts identified 30 self-administered questionnaires to assess fear of movement, coping, self-efficacy, and catastrophizing in people with musculoskeletal pain. After consecutive rounds, the experts

reached consensus and recommended either 2 or 3 questionnaires for each psychosocial factor. The expert panel recommended the FABQ, TSK, and TSK-11 for fear of movement, the CSQ, CSQ-R and CPCI for coping, the PSEQ and PSEQ-2 for self-efficacy, and the PCS and CSQ-R for catastrophizing. These recommendations provide better guidance for various health care professionals and researchers across different domains (medicine, allied health, and mental health), who want to assess these factors. The recommendations have the potential to make the assessment of 4 psychosocial factors in patients with musculoskeletal pain more uniform, enabling comparison and pooling of data.

Although consensus was reached, some experts expressed concerns about specific constructs and questionnaires. It is noteworthy that several experts doubted the relevance and validity of measuring self-efficacy as a separate construct because it is not a precise concept and it is closely related to the construct of fear of pain. However, general consensus was that both versions of the PSEQ can be recommended to measure the construct. The factor structure of the FABQ and TSK for

Table 3

Quantitative results for round 3.

Questionnaire	Is the questionnaire suitable to assess the psychosocial factor in people with musculoskeletal pain?			At least 50% of experts made a judgement (ie, "yes" or "no" answer)	Suitability agreement level	Consensus to recommend
	Yes	Don't know	No	Yes/no		
Fear of movement: N = 25*						
TSK	23	1	1	Yes	95.8	Yes
TSK-11	21	3	1	Yes	95.5	Yes
FABQ	20	1	4	Yes	83.3	Yes
CPAQ	2	11	10	No†	N.A	No
NeckPix	2	22	0	No†	N.A.	No
Coping: N = 18*						
CPCI	9	8	1	Yes	90.0	Yes
CSQ	11	5	2	Yes	84.6	Yes
CSQ-R	10	6	2	Yes	83.3	Yes
PSEQ	6	6	6	Yes	50.0	No
BPCI	7	10	1	No†	N.A.	No
Self-efficacy: N = 22*						
PSEQ	18	4	0	Yes	100	Yes
PSEQ-2	14	8	0	Yes	100	Yes
CPSS	8	14	0	No†	N.A.	No
Catastrophizing: N = 24*						
PCS	23	1	0	Yes	100	Yes
CSQ-R	12	8	4	Yes	75.0	Yes

* N provided is the number of experts adjusted for the panel members who did not consider themselves as an expert for this factor.

† If less than 50% of experts had an opinion about a questionnaire, the questionnaire was withdrawn from further analysis, and no consensus could be reached.

BPCI, Brief Pain Coping Inventory; CPAQ, Chronic Pain Acceptance Questionnaire; CPCI, Chronic Pain Coping Inventory; CPSS, Chronic Pain Self-Efficacy Scale; CSQ, Coping Strategies Questionnaire; CSQ-R, revised version of the Coping Strategies Questionnaire; FABQ, Fear Avoidance Beliefs Questionnaire; N.A., not applicable; PCS, Pain Catastrophizing Scale; PSEQ, Pain Self-Efficacy Questionnaire; PSEQ-2, 2-item version of the Pain Self-Efficacy Questionnaire; TSK, Tampa Scale For Kinesiophobia; TSK-11, 11 item version of the Tampa Scale For Kinesiophobia.

measuring fear of movement was questioned, as was the validity of the CSQ-R to measure catastrophizing. Nevertheless, general consensus was that these questionnaires are relevant and suitable for use in musculoskeletal pain.

The expert panel in our study was sufficiently large, with broad research and clinical expertise, reflecting the clinicians and researchers using these questionnaires in patients with musculoskeletal pain. Most experts had participated in development, translation, and/or validation of a questionnaire in a psychosocial domain relevant to the study. The response rates for all rounds were in line with previous Delphi studies, with approximately two-third of experts responding.[1] Sensitivity analyses indicated that the results based on all experts did not differ meaningfully from the results based only on the experts who completed all rounds.

The consensus method, which is inherent to a Delphi study, favours well-known instruments over recently developed (eg, PROMIS CAT) and less-known questionnaires (eg, NeckPix). If a questionnaire was relatively new and most experts were not familiar enough with the questionnaire to form a valid opinion, it meant that it was (perhaps unjustifiably) not possible to a make recommendation. For example, recent developments in the area of computer adaptive testing were not considered in this study.[2] These recommendations should therefore be seen in light of current scientific knowledge and practice, which is constantly evolving.

4.1. Future recommendations

Several questionnaires that were recommended are not yet validated in patients with (persistent) musculoskeletal pain. Future research should therefore focus on the validation of these questionnaires in patients with musculoskeletal pain. In addition, most of these questionnaires are not yet available in other languages than English. Therefore, to improve the use of these questionnaires, we encourage translation and subsequent validation of these questionnaires in multiple languages and settings. Because clear recommendations were formulated in this study, the recommended questionnaires should be prioritised when core outcome sets for musculoskeletal pain are developed.

5. Conclusion

In this study, the expert panel recommended the FABQ, TSK, and TSK-11 to assess fear of movement, the CSQ, CSQ-R, and CPCI for coping, the PSEQ and PSEQ-2 for self-efficacy, and the PCS and CSQ-R for catastrophizing.

Conflict of interest statement

The authors have no conflict of interest to declare.

Acknowledgements

Appendix A. Supplemental digital content

Supplemental digital content associated with this article can be found online at http://links.lww.com/PAIN/A689.

References

[1] Akins RB, Tolson H, Cole BR. Stability of response characteristics of a Delphi panel: application of bootstrap data expansion. BMC Med Res Methodol 2005;5:1–12.

[2] Amtmann D, Liljenquist K, Bamer A, Bocell F, Jensen M, Wilson R, Turk D. Measuring pain catastrophizing and pain-related self-efficacy: expert panels, focus groups, and cognitive interviews. Patient 2018;11:107–17.

[3] Artus M, Campbell P, Mallen CD, Dunn KM, van der Windt DAW. Generic prognostic factors for musculoskeletal pain in primary care: a systematic review. Br Med J 2017;7:e012901.

[4] Carroll LJ, Hogg-Johnson S, van der Velde G, Haldeman S, Holm LW, Carragee EJ, Hurwitz EL, Côté P, Nordin M, Peloso PM, Guzman J, Cassidy JD. Course and prognostic factors for neck pain in the general population. Eur Spine J 2008;17:75–82.

[5] Cimmino MA, Ferrone C, Cutolo M. Epidemiology of chronic musculoskeletal pain. Best Pract Res Clin Rheumatol 2011;25:173–83.

[6] Green J, Thorogood N. Analysing qualitative data. In: Qualitative Methods for Health Research. London, United Kingdom: SAGE Publications Ltd, 2004. p. 173–200.

[7] Hartvigsen J, Hancock MJ, Kongsted A, Louw Q, Ferreira ML, Genevay S, Hoy D, Karppinen J, Pransky G, Sieper J, Smeets RJ, Underwood M, Buchbinder R, Hartvigsen J, Cherkin D, Foster NE, Maher CG, Underwood M, van Tulder M, Anema JR, Chou R, Cohen SP, Costa LM, Croft P, Ferreira M, Ferreira PH, Fritz JM, Genevay S, Gross DP, Hancock MJ, Hoy D, Karppinen J, Koes BW, Kongsted A, Louw Q, Öberg B, Peul WC, Pransky G, Schoene M, Sieper J, Smeets RJ, Turner JA, Woolf A. What low back pain is and why we need to pay attention. Lancet 2018;391:2356–67.

[8] Hayden JA, Dunn KM, van der Windt DA, Shaw WS. What is the prognosis of back pain? Best Pract Res Clin Rheumatol 2010;24:167–79.

[9] Hsu C, Sandford B. The delphi technique: making sense of consensus. Pract Assess Res Eval 2007;12:1–8.

[10] Jorm AF. Using the Delphi expert consensus method in mental health research. Aust N Z J Psychiatry 2015;49:887–97.

[11] Kent PM, Keating JL, Taylor NF. Primary care clinicians use variable methods to assess acute nonspecific low back pain and usually focus on impairments. Man Ther 2009;14:88–100.

[12] Koes BW, van Tulder M, Lin CWC, Macedo LG, McAuley J, Maher C. An updated overview of clinical guidelines for the management of non-specific low back pain in primary care. Eur Spine J 2010;19:2075–94.

[13] Martinez-Calderon J, Zamora-Campos C, Navarro-Ledesma S, Luque-Suarez A. The role of self-efficacy on the prognosis of chronic musculoskeletal pain: a systematic review. J Pain 2017;19:10–34.

[14] Palazzo C, Ravaud JF, Papelard A, Ravaud P, Poiraudeau S. The burden of musculoskeletal conditions. PLoS One 2014;9:e90633.

[15] Pincus T, McCracken LM. Psychological factors and treatment opportunities in low back pain. Best Pract Res Clin Rheumatol 2013;27:625–35.

[16] Powell C. The Delphi technique: myths and realities. J Adv Nurs 2003;41:376–82.

[17] Singla M, Jones M, Edwards I, Kumar S. Physiotherapists' assessment of patients' psychosocial status: are we standing on thin ice? A qualitative descriptive study. Man Ther 2015;20:328–34.

[18] Synnott A, O'Keeffe M, Bunzli S, Dankaerts W, O'Sullivan P, O'Sullivan K. Physiotherapists may stigmatise or feel unprepared to treat people with low back pain and psychosocial factors that influence recovery: a systematic review. J Physiother 2015;61:68–76.

[19] Walton DM, Macdermid JC, Taylor T; ICON. What does "recovery" mean to people with neck pain? Results of a descriptive thematic analysis. Open Orthop J 2013;7:420–7.