Original Article

Development and validation of Arabic version of the pain catastrophizing scale

ABSTRACT

Introduction: The pain catastrophizing scale (PCS) is the most widely used tool to assess pain catastrophizing. The aim of this study was to translate, culturally adapt, and validate the PCS questionnaire in Arabic.

Methods: A systematic translation process was used to translate the original English PCS into Arabic. After the pilot study, we validated our version among patients with chronic pain at two tertiary care centers. We tested the reliability of our version using internal consistency and test-retest reliability. We examined the validity by assessing construct validity, concurrent validity (by investigating the associations with Brief Pain Inventory [BPI]), and face validity.

Results: A total of 113 subjects (50 men, 63 women) were included in the study. Cronbach's α was 0.94 (95% confidence interval [CI]: 0.92–0.96), and interclass correlation coefficients was 0.83 (95% CI: 0.77–0.89) for the total scale. There was no statistically significant difference in the total PCS scores between patients who reported experiencing current pain and those who did not. Among patients who reported having current pain, pain severity was weakly associated with the total PCS scores ($r = 0.22$, $P = 0.03$). PCS and its subscales were not statistically significantly associated with any of the BPI items. Nonetheless, patients who were diagnosed with neuropathic pain had statistically significantly higher scores on the total PCS, rumination, and helplessness subscales. Most patients found the PCS questions to be clear and easy to understand, and thought the questionnaire items covered all their problem areas regarding their pain catastrophizing.

Conclusion: Our translated version of PCS is reliable and valid for use among Arabic-speaking patients.

Key words: Anesthesia; Arabic; chronic pain; pain catastrophizing scale; reliability; validity

Introduction

Pain is one of the most common complaints in everyday clinical practice. As pain is a subjective symptom, the description of pain may vary across patients, which may result in large variations in self-report pain scores among

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patients suffering from similar ailments. As it is possible that patients who tend to catastrophize their pain are likely to report having more severe pain, the variability in pain scores may also be affected by patients' tendency to catastrophize.[1]

Pain catastrophizing may be broadly defined as a cognitive process involving an exaggerated negative inclination towards pain experiences. Although there remains no consensus regarding the defining criteria of pain catastrophizing, investigators generally agree that pain catastrophizing may have a negative effect toward pain experience.[1] Three elements have been identified to be essential for the process of catastrophizing; magnification (exaggeration of the threatening properties of pain), rumination (inability to stop thinking about the pain), and helplessness (inability to do anything to influence pain). Nonetheless, which of these components is the primary element for pain catastrophizing remains debatable.[1]

From a clinical perspective, the pain catastrophizing scale (PCS) may help identify patients who are susceptible to heightened distress responses to aversive procedures, such as chemotherapy. Knowing individuals' levels of catastrophizing may facilitate the application of interventions that aid in coping with or recovery from these procedures. For example, Heyneman *et al*.[2] suggested that strategies such as positive self-instruction are more likely to be effective in reducing distress than distraction strategies. However, tailoring pain management for chronic pain patients is even more difficult. Recent guidelines highlights the need to assess levels of pain catastrophizing when studying chronic postsurgical pain, among which the PCS is the most commonly used instrument to measure pain catastrophizing in chronic pain studies.[3]

Although the validity and reliability of PCS questionnaire has been evaluated in many studies and it has been translated into many languages across the world, an Arabic translation of the PCS is not available. The aim of this study is to translate, culturally adapt, and validate PCS questionnaire into Arabic language.

Methods

A repeated measures study was conducted between September 2014 and December 2016 in two tertiary hospitals in Riyadh – Saudi Arabia: King Faisal Specialized Hospital (KFSH) (Institutional Review Board [IRB] Approval No. 2141 101) and King Fahad Medical City (KFMC) (IRB Approval No. 14-107). An electronic data-capturing template was made to standardize the data collection process and maintain quality.

Translation and cultural adaptation

Initial translation (forward translation)

Five bilingual translators, from five Arabic countries (Syria, Saudi Arabia, Yemen, Sudan and Egypt) with different dialects, were assigned. All translators spoke Arabic as their mother language. Two of them were naive translators with no prior knowledge of the concepts being quantified, and they were not from the medical field. Each translator produced a written report of the translation that they completed, after which all the translators met to discuss the translation and came to a consensus of the translated version of the instrument.

Backward translation

Two translators who were totally blind to the original (English) questionnaires were assigned to translate the final Arabic version back into the English language. This is a process of validity check to make sure that the translated version reflects the same item content as the original version. English (the source language) was the mother tongue for these two translators, and they were not aware of the concepts being explored.

An expert committee

An expert committee was composed of a methodologist, health professionals, and language professionals. The expert committee's role was to consolidate all the versions of the questionnaire and develop the prefinal version of the questionnaire for field-testing. The committee eventually reviewed all the translations and reached consensus on any discrepancy.

Measures

Pain catastrophizing scale

The PCS includes 13 items assessing the thoughts and feelings associated with pain.[4] The PCS assesses three dimensions of pain catastrophizing: Rumination (4 items; Questions 8, 9, 10, and 11), magnification (3 items; Questions 6, 7, and 13), and helplessness (6 items; Questions 1, 2, 3, 4, 5, and 12). Patients rate on a 5-point Likert-type scale (0 = not at all, 1 = to a slight degree, 2 = to a moderate degree, 3 = to a great degree, 4 = all the time) the degree to which they have the described thoughts and feelings when they are experiencing pain. A total PCS score can be computed by summing the score on all the items, with higher scores indicating a higher tendency of pain catastrophizing. The scores for the three PCS subscales can be obtained in a similar manner. In the original study, a PCS total score of ≥30 was considered to be indicative of a clinically relevant level of catastrophizing. Although, the author in a more recent study found a cutoff score ≥24 might be a more evidence-based cut score.[5]

Numerical rating scale

Numerical rating scale (NRS) is 11-point (0–10) pain intensity score that assesses current overall pain intensity (from 0= "no pain" to 10= "pain as bad as you can imagine").[6]

Brief Pain Inventory

The Brief Pain Inventory (BPI) is commonly used to assess patients' pain in clinical settings. Two domains of pain are assessed with the BPI – pain severity and pain interference. Pain severity is measured with four items, assessing pain at its "worst," "least," "average," and "now" (current pain). The intensity of pain is rated from 0 (no pain) to 10 (pain as bad as you can imagine). Pain interference is measured with seven items, assessing the extent to which pain has interfered with seven daily activities (general activity, walking, work, mood, enjoyment of life, relations with others, and sleep). Patients rated, from 0 (does not interfere) to 10 (completely interferes), how pain has interfered with their functioning.[7] We used the MD Anderson Cancer Center Arabic BPI-Short Form version, a previously translated and validated version.[8] In the current study, Cronbach's alpha (α) was 0.83 and 0.88 for pain severity and pain interference, respectively.

Study protocol

An Arabic version of the PCS questionnaire was administered twice among chronic pain (more than 3 months) patients in the pain clinic. This questionnaire was part of a package that contained the BPI questionnaire and NRS as validating questionnaires (all in Arabic). Eligible patients were between 17 and 80 years old and reported chronic pain of at least 3 months' duration. Exclusion criteria included psychosis, significant visual impairment, physical disability, or patient's refusal to participate in the study. The patients completed the questionnaire for the first time (Time 1) in the clinic, after the researcher explained the purpose of the study, obtained a verbal consent, and answered all queries. The questionnaire was completed the second time (Time 2) by telephone interview after an average of 7 days.

Pilot study

The prefinal version was pilot tested on a group of 34 patients (19 males and 15 females). The pilot data are not shown here for space consideration. Both interviews (Time 1 and Time 2) were completed in person, after which the participants were asked about their experience and thoughts about the current version. No specific feedback was received. The committee met at this point and approved the prefinal version as final [the final Arabic version is presented in the Appendix 1]. No changes were implemented to the prefinal version.

Assessing face validity

After completing the PCS at Time 1, patients responded to five statements regarding the PCS items on a 5-point Likert type scale: 1 = totally disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree. The five statements were: (1) Questions were clear and easy; (2) questions covered all your problem areas with your pain catastrophizing; (3) you would like the use of this questionnaire for future assessments; (4) the questionnaire lacks important questions regarding your pain catastrophizing; (5) any of the questions violate your privacy.

Statistical analysis

All data analyses were performed in R version 3.3.2 (2016-10-31). Descriptive statistics (mean [M], standard deviation [SD], minimum, maximum)[9] were presented for the PCS items, subscale and total scores, BPI items and composite score.

Reliability

The internal consistency of the PCS was examined using Cronbach's α. Cronbach's α ranges from 0 (no internal consistency; none of the items are correlated with each other) to 1 (perfect internal consistency; all of the items are perfectly correlated with each other). Cronbach's α was computed for the total PCS scale (all 13 items), as well as the rumination (4 items), magnification (3 items), and helplessness (6 items) subscales. An instrument with $\alpha \geq 0.70$ is typically considered to have adequate internal consistency.[10] As α is a function of the questionnaire's length, α is expected to be lower for the subscales than for the total scale.

Test-retest reliability was assessed by a second administration (Time 2) of the PCS, after at least 72 h of the first administration (Time 1). The stability of the individuals' responses was estimated using the Pearson's correlation coefficients (r) between their responses in the two administrations. Pearson correlation coefficient (r) between the two assessments was computed for the PCS subscale and total pain scores. Test-retest reliability was considered to be weak if $r < 0.3$, moderate if $0.3 \geq r < 0.5$, and strong if $r \geq 0.5$. Intraclass correlation coefficients (ICCs) were also computed, with ICC ≥ 0.70 indicating good test-retest reliability.[11]

Validity

Construct validity of the PCS was examined by investigating the association between the PCS subscale and total scores and the numerical pain scale. To establish concurrent validity of the PCS, the extent to which the PCS is correlated with another validated measure of pain, the BPI. Pearson's correlation coefficient (r) was used to evaluate the strength

of the associations; $r < 0.3$ was considered to be weak, moderate if $0.3 \geq r < 0.5$, and strong if $r \geq 0.5$.

Results

A total of 113 patients (50 men, 63 women) participated in the validation study of the PCS questionnaire. The average age was 52 (SD = 17), with average BMI of 33 (SD = 8). Most patients had university-level education (39%), with fewer proportions having received some high school (36%), less than high school (14%), or no education (11%). The majority of these patients were married (87%), whereas 8% were single, <2% were divorced, and 4% were widowed. Of the enrolled patients, 29% were rated as 1, 54% were rated as 2, and 16% were rated as 3 on the American Society of Anaesthesiologists (ASA) score. Eighty six (76%) patients were from KFSH, and 27 (24%) from KFMC. Most patients (90%) reported having current pain.

Chronic pain diagnoses were as follows: 54 (47.8%) radiculopathy, 10 (8.8%) musculoskeletal, 9 (8.0%) osteoarthritis, 8 (7.1%) mechanical low back pain, 5 (4.4%) failed back surgery syndrome, 3 (2.7%) nerve injury/trauma, 3 (2.7%) sacroiliitis, 3 (2.7%) spinal stenosis, 2 (1.8%) carpal tunnel syndrome, 2 (1.8%) complex regional pain syndrome, 2 (1.8%) mechanical neck pain, 2 (1.8%) spondylolisthesis, 2 (1.8%) trigeminal neuralgia, 1 (0.9%) chronic headache, 1 (0.9%) fibromyalgia, 1 (0.9%) occipital neuralgia, 1 (0.9%) rotator cuff tear, 1 (0.9%) spinal cord injury, 1 (0.9%) spondylosis, 1 (0.9%) meralgia paresthetica, and 1 (0.9%) unknown cause.

On average, the patients were contacted for the second interview 8 (SD = 7) days after their initial participation. The majority of the patients (93%) completed the second interview within 10 days after the initial interview.

The descriptive statistics of the PCS and BPI at Time 1 and Time 2 are presented in Table 1. Patients' scores on the PCS total and subscales were not correlated with their demographic characteristics [Table 2].

Reliability

Cronbach's α's for the PCS total scale and subscales are shown in Table 3. Results showed excellent internal consistency for the 13-item PCS. The internal consistencies for the three subscales were good, albeit slightly lower, as to be expected given the subscales consist of fewer items.

Test-retest reliability was computed using all patients with complete PCS data for both interviews; none of the patients had missing data on the PCS. The correlation coefficients (*r*s) between the two interviews were 0.84 (95% confidence interval [CI]: 0.77–0.89), 0.83 (95% CI: 0.76–0.88), 0.81 (95% CI: 0.73–0.86), and 0.8 (95% CI: 0.72–0.86) for the total PCS, rumination, magnification, and helplessness subscales, respectively. ICCs were 0.83 (95% CI: 0.77–0.89), 0.82 (95% CI: 0.76–0.88), 0.8 (95% CI: 0.73–0.86), and 0.79 (95% CI: 0.72–0.86) for the total PCS, rumination, magnification, and helplessness subscales, respectively. Results suggested good test-retest reliability for the overall PCS and its three dimensions.

Validity

The construct validity of the PCS was assessed by examining the correlations between the PCS and patients' self-reported current pain on the NRS. Results from linear regression showed that there was no statistically significant difference in the total PCS scores between patients who reported having current pain and those who reported having no current pain ($b = 2.64$, standard error [SE] =4.53, $P = 0.56$). Among the 102 patients who reported having current pain, the severity of the reported pain on the NRS was weakly associated with their PCS scores ($r = 0.22$, $P = 0.03$). Results suggested that patients who reported more severe pain were slightly more likely to have higher scores on the PCS.

To investigate the concurrent validity of the PCS, the extent to which the PCS was associated with the BPI was examined. As shown in Table 4, PCS and its subscales were not statistically significantly associated with any of the BPI items (*r*s = −0.04–0.16, all *P*s >0.05). Results suggested that pain catastrophizing was not correlated with pain assessed with the BPI.

Among the 113 patients in this study, 74 (65.5%) were diagnosed with neuropathic pain. We compared PCS scores between patients who were and were not diagnosed with neuropathic pain using linear regression models. Results showed that patients who were diagnosed with neuropathic pain had statistically significantly higher scores on the PCS total scale ($b = 6.51$, SE = 2.76, $P = 0.02$), the rumination ($b = 2.13$, SE = 0.86, $P = 0.01$) and helplessness ($b = 3.20$, SE = 1.32, $P = 0.02$) subscales than patients who were not diagnosed with neuropathic pain. There were no statistically significant differences between the two groups of patients on the PCS magnification ($b = 1.18$, SE = 0.78, $P = 0.14$) subscale.

Face validity

Patients' responses to the five questions assessing the face validity of the PCS are presented in Table 5. The majority of the patients endorsed agree or strongly agree for the first three questions assessing face validity. Results showed that

Table 1: Descriptive statistics of the pain catastrophizing scale, Brief Pain Inventory, and numerical rating scale for chronic pain patients

Questions/statements	Time 1				Time 2			
	Mean	SD	Minimum	Maximum	Mean	SD	Minimum	Maximum
PCS								
1. I worry all the time about whether the pain will end	2.4	1.4	0	4	2.2	1.4	0	4
2. I feel I can't go on	1.9	1.4	0	4	1.6	1.4	0	4
3. It's terrible and I think it's never going to get any better	1.6	1.4	0	4	1.3	1.4	0	4
4. It's awful and I feel that it overwhelms me	2.2	1.4	0	4	2.2	1.4	0	4
5. I feel I can't stand it anymore	1.9	1.4	0	4	1.6	1.4	0	4
6. I become afraid that the pain will get worse	2.0	1.5	0	4	1.8	1.6	0	4
7. I keep thinking of other painful events	1.3	1.5	0	4	1.2	1.5	0	4
8. I anxiously want the pain to go away	3.1	1.2	0	4	3.1	1.2	0	4
9. I can't seem to keep it out of my mind	2.1	1.4	0	4	2.0	1.4	0	4
10. I keep thinking about how much it hurts	2.0	1.5	0	4	1.8	1.4	0	4
11. I keep thinking about how badly I want the pain to stop	2.1	1.4	0	4	1.9	1.4	0	4
12. There's nothing I can do to reduce the intensity of the pain	1.7	1.5	0	4	1.6	1.4	0	4
13. I wonder whether something serious may happen	1.8	1.6	0	4	1.4	1.6	0	4
Rumination	9.3	4.5	0	16	8.8	4.5	0	16
Magnification	5.0	4.0	0	12	4.3	4.0	0	12
Helplessness	11.6	6.8	0	24	10.5	6.6	0	24
Total	25.9	14.2	0	52	23.7	14.1	0	52
BPI								
Worst pain	7.9	2.1	1	10	7.5	2.1	1	10
Least pain	4.4	2.5	0	10	4.3	2.2	0	10
Average pain	6.1	2.2	0	10	5.8	2.1	0	10
Current pain	6.0	2.7	0	10	5.4	2.7	0	10
Pain severity	6.1	1.9	0.8	10	5.8	1.9	0.3	10
Pain interference	5.2	2.5	0.7	10	5.1	2.4	0.4	10
NRS	5.9	2.6	0	10	-	-	-	-

SD: Standard deviation; PSC: Pain catastrophizing scale; BPI: Brief Pain Inventory; NRS: Numerical rating scale

Table 2: Associations between demographic characteristics and pain catastrophizing

	Total		Rumination		Magnification		Helplessness	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Gender (female)[a]	−0.45	−1.70	0.18	−0.54	−0.06	−0.17	−0.57	−0.99
ASA physical status[a]	1.94	0.86	0.50	0.20	0.23	0.14	1.21	0.52
Marital status (married)[a]	−0.42	0.71	−0.68	−0.65	0.24	0.52	0.02	0.83
Age[b]	0.02	0.02	0.02	0.02	−0.04	−0.04	0.06	0.06
BMI[b]	0.01	0.01	−0.04	−0.04	−0.02	−0.02	0.06	0.06
Years of education[b]	0.04	0.04	0.04	0.04	0.08	0.08	0.01	0.01

All $P>0.05$. [a]Unstandardized coefficients (*b*) from linear regression models are reported. [b]Pearson correlation coefficients (*r*) are reported. ASA: American Society of Anesthesiologists; BMI: Body mass index

Table 3: Cronbach's alpha for the Pain Catastrophizing Scale

	Time 1	Time 2
Total PCS	0.94	0.94
Rumination	0.81	0.84
Magnification	0.82	0.81
Helplessness	0.89	0.89

PSC: Pain Catastrophizing Scale

most patients found the PCS questions to be clear and easy to understand, the questionnaire items covered all their problem areas regarding their pain catastrophizing, and that most would like to use the PCS for their long-term follow-up assessment. Most patients disagreed that the PCS lacks important questions regarding their pain catastrophizing, suggesting that the PCS addressed most, if not all, of the important issues associated with pain catastrophizing. Finally, most patients felt that the PCS questions did not violate their privacy.

Discussion

Pain catastrophizing is characterized by the tendency to magnify the threat value of a pain stimulus, to feel helpless

Table 4: Pearson correlation coefficients between Pain Catastrophizing Scale and Brief Pain Inventory among patients

	PCS				BPI				
	Total	Rumination	Magnification	Helplessness	Worst pain	Least pain	Average pain	Current pain	Severity
PCS									
Rumination	0.92***								
Magnification	0.90***	0.76***							
Helplessness	0.96***	0.82***	0.80***						
BPI									
Worst pain	0.12	0.16	0.01	0.14					
Least pain	0.12	0.10	0.14	0.11	0.45***				
Average pain	0.01	0.06	−0.04	0.00	0.66***	0.63***			
Current pain	0.02	0.04	−0.01	0.03	0.46***	0.55***	0.62***		
Severity	0.09	0.10	0.04	0.09	0.76***	0.81***	0.87***	0.82***	
Interference	0.09	0.12	−0.03	0.12	0.39***	0.36***	0.46***	0.37***	0.48***

*$P<0.05$, **$P<0.01$, ***$P<0.001$. PSC: Pain catastrophizing scale; BPI: Brief Pain Inventory

Table 5: Descriptive statistics for face validity

	Mean	SD	Totally disagree (%)	Disagree (%)	Undecided (%)	Agree (%)	Strongly agree (%)
Questions were clear and easy	4.3	0.55	0.00	0.88	2.6	66.4	30.1
Questions covered all my problem areas with my pain catastrophizing	4.0	0.72	0.88	0.88	15.0	58.4	24.8
I would like the use of this questionnaire for future assessments	4.0	0.64	0.00	1.77	15.0	64.6	18.6
The questionnaire lacks important questions regarding my pain catastrophizing	2.4	0.85	9.73	54.87	25.7	6.2	2.6
Some of the questions violate my privacy	1.6	0.71	47.79	44.25	5.3	2.6	0.0

SD: Standard deviation

in the presence of pain, as well as by a relative inability to prevent or inhibit pain-related thoughts in anticipation of, during, or following a painful event. The PCS is one of the most widely used questionnaires to assess pain catastrophizing. It is also available in 20 other languages, including Brazilian,[12] Chinese,[13] Hindi,[14] Norwegian,[15] and South African.[16]

To the best of our knowledge, this is the first study to translate, culturally adapt, and validate the PCS questionnaire in Arabic. Our Arabic version of the PCS showed excellent internal consistency and test-retest reliability. Among patients who reported experiencing current pain, PCS scores were positively associated the severity of pain, suggesting that pain catastrophizing may be associated with the intensity of distress caused by pain. In the current study, most patients found the PCS questions to be easy to understand and cover all areas relevant to their pain catastrophizing. Such findings indicated that the translated PCS version can be easily administrated among Arabic-speaking patients.

Patients' demographic characteristics (gender, age, years of education, or marital status) and health status (ASA score) were not associated with the PCS total or subscale scores. In a previous study, Osman *et al*.[17] found a significant difference in PCS scores between men and women. Compared to men, women were reported to have higher PCS scores on the rumination and helplessness subscales, as well as the total PCS scale. On the contrary, no statistically significant gender difference was observed in the PCS total or subscales among patients in our study. Future studies should examine whether there exists cross-cultural differences in the construct of pain catastrophizing among similar types of patients. However, we found patients who were diagnosed with neuropathic pain had higher scores on the PCS total scale, the rumination and helplessness subscales than patients who were not diagnosed with neuropathic pain. Our findings echoes Cory *et al*. findings, as they found women with features of neuropathic pain have worse pain catastrophizing than those without features of neuropathic pain.[18]

The current study found that the PCS scores were not associated with the presence or absence of current pain. In addition, the PCS total and subscale scores were not correlated with pain assessed with the BPI. These results suggested that pain catastrophizing, as assessed with the PCS, may not be associated with the subjective perspective of pain, pain intensity, or pain interference. It is possible that pain catastrophizing may be considered to be characteristics of personality traits or cognitive processes,

which may not be necessarily related with the construct of pain itself.

Conclusion

The results of our study suggested that Arabic version of PCS is a valid and reliable tool to gauge the catastrophizing of pain among chronic pain Arabic-speaking patients. Our findings also suggested that pain catastrophizing is not associated with demographic characteristics or other subjective pain assessments among Arabic-speaking patients in this study.

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Conflicts of interest
There are no conflicts of interest.

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Appendix

الكثير من الأشخاص يعانون من آلام مختلفة في لحظات حياتهم، كآلام الصداع، آلام الأسنان، آلام المفاصل والعضلات.
لذلك، نحن مهتمون بمعرفة الأفكار والمشاعر التي ترودك عندما تكون في حالة الألم، في مقياس الألم التالي، يوجد 13 عبارة تصف جوانب مختلفة من الأفكار والمشاعر التي قد تتصاحب مع الألم.
يرجى تحديد مدى انطباق هذه العبارات عليك حسب المقياس التالي:

مقياس الألم. من فضلك، ضع علامة (✓) في المكان المناسب:						(PCS):
العدد	العبـــــــارة	0= لا على الإطلاق	1= نعم إلى حد بسيط	2= نعم إلى حد متوسط	3= نعم إلى حد كبير	4= نعم في كل الأوقات
1	أنا قلق طوال الوقت حول ما إذا كان الألم سينتهي أم لا					
2	أشعر أنني لا أستطيع الاستمرار فيما أشعر فيه من الألم					
3	الألم فظيع، وأعتقد أنه لا يمكن أن يتحسن					
4	الألم مروع، وأشعر أنه يثقل كاهلي و يتعبني					
5	أشعر أنه لا يمكنني التحمل أكثر بعد الآن					
6	أشعر بالخوف من أن الألم سيصبح أسوء					
7	أفكر دائماً بأحداث مؤلمة أخرى					
8	أريد زوال الألم بلهفة بالغة					
9	لا استطيع أن أنسى الألم					
10	أظل أفكر دائما في شدة الألم					
11	أظل أفكر باستياء عن كيفيّة إيقاف الألم					
12	ليس بوسعي فعل أي شيء للتقليل من حدة الألم					
13	أنا أتساءل عمّا إذا كان سيحدث شيء خطير لي					

From: Sullivan MJL, Bishop S, Pivik J. The pain catastrophizing scale: development and validation. Psychol Assess, 1995, 7: 524-532

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Appendix 1: Arabic version of the pain catastrophizing scale questionnaire