Exploring the psychometric properties of the Personal Problems Questionnaire (PPQ) in a sample of chronic pain patients

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Screening for reporting of valid and non-valid symptoms is important in the assessment and treatment of chronic pain patients.

Objective

This study investigated the psychometric properties of a new questionnaire, the Personal Problems Questionnaire (PPQ), which screens for valid and non-credible Cognitive, Emotional and Physical complaints in patients with chronic pain.

Concurrent and discriminant validity for clinical and validity scales of the PPQ, in addition to internal reliability, were explored.

Participants & Methods

The PPQ is a 156-item self-report questionnaire which has 12 Clinical scales relating to Cognitive, Emotional and Physical complaints and 3 corresponding Validity scales (van den Broek et al., 2012).

Participants were asked to indicate the degree to which they had experienced each problem during the preceding month on a 3-point rating scale: Never (0), Sometimes (1) and Often (2). The scores on 12 Clinical Scales range between 0 and 30 and on the 3 Validity Scales from 0 to 24.

The following measures were also administered:

- Short Form McGill Pain Questionnaire (SF-MPQ; Melzak, 1987): a measure of pain.
- The Medical Symptom Validity Test (MSVT; Green, 2004): a test of effort.
- Personality Assessment Inventory (PAI; Morey, 2007): a psychopathology questionnaire including both validity and emotional scales (completed by a subsample of 27 patients).

Participants comprised 77 patients with chronic pain recruited from a Pain Clinic and a Pain Management Programme (28:49 m/f).

Their mean age was 51 (±13; range=18-90) years and mean pain duration was 9 (±10) years.

Results

The internal reliability of the PPQ scales was good (range 0.78-0.91). Concurrent validity between PPQ Clinical scales (Anxiety, Depression, Stress, Anger) and similar PAI subscales (i.e. Anxiety, Depression, Stress, Aggression), between cognitive symptoms on the PPQ (i.e. Total Cognitive Symptoms) and Thought Disorder (a subscale of Schizophrenia in the PAI), and between the Somatic Complaints Scale of the PPQ and the Somatic Complaints Scale of the PAI was supported (correlations ranged from 0.48 to 0.91).

Almost all correlations were >0.50, consistent with large effect sizes. SF-MPQ Pain Intensity (r=0.48) and Total Pain Descriptors (r=0.64) were significantly correlated with the PPQ Pain scale (p<0.05).

Conclusions

Concurrent validity for the PPQ scales was supported by the results of correlations between measures of similar clinical constructs.

Broadly, the higher the score on each of the PPQ validity scales, the higher the score on the PAI scales of negative symptom magnification. The higher the score on the PPQ validity scale the greater likelihood of failure on the MSVT.

The PPQ Emotional validity scale predicted the PAI validity measures (NIM, MAL and PIM) and the PPQ Physical validity scale predicted MSVT results. This suggests the PPQ validity scales have different properties and potentially tap related, but different constructs.

The findings warrant further investigation in a larger sample and with more sensitive measures of performance and symptom validity (such as the Word Memory Test and the MMPI-2 RF).

The PPQ is the first UK-developed questionnaire that includes measures of symptom validity. Previous research has found that the validity scales are sensitive to exaggeration in simulating subjects. The present results suggest it also has promise when screening for emotional, physical and cognitive symptoms in chronic pain patients.

Failure on the MSVT was associated with higher scores on PPQ validity scales (Table 1). Biserial correlations between MSVT pass/fail outcome and non-valid cognitive and physical symptom scales were significant. All validity scale scores were strongly associated with those on the PAI Negative Impression Management and Malingering Index scales, but not the Roger’s Discriminant Function.

<table>
<thead>
<tr>
<th>Table 1. Association between PPQ validity scales scores and MSVT outcome and PAI validity scales of negative symptom distortion</th>
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<tbody>
<tr>
<td>PPQ non-valid Cognitive</td>
</tr>
<tr>
<td>MSVT</td>
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<tr>
<td>0.34**</td>
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<td>PAI NIM</td>
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<td>PAI MI</td>
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<td>PAI RDF</td>
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Note: MSVT = Outcome of Medical Symptom Validity Test; PAI = Personality Assessment Inventory; NIM = Negative Impression Management; MI = Malingering Index; RDF = Roger’s Discriminant Function Index; *p<0.05; **p<0.01; ***p<0.001; p<0.0001.

The MSVT scores were used as a continuous variable (the averaged five percentage scores on MSVT subscales) were used as a dependent variable in multivariate regression to test which of the three PPQ Validity scales best predicted the MSVT score. The PPQ validity Physical scale was found to significantly predict the mean MSVT score (Beta = -0.47*, p<0.05).

On separate regression models, with the PAI validity scales as dependent measures, the PPQ Emotional validity scale predicted scores on the PAI validity scales (NIM, Beta = 0.88, p<0.001; MAL, Beta = 0.79, p<0.001, PIM, Beta = -0.60**, p<0.01).

Reference