Reviewer's report

Title: Reliability and validity of the Brief Illness Perception Questionnaire for use in acute low back pain patients.

Version: 6 Date: 6 September 2012

Reviewer: Christopher Graham

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My initial impression of the paper was that, although quite specific in focus, it would make a meaningful contribution to the field as there are, to my knowledge, very few psychometric analyses of the Brief IPQ. However, there is a major flaw with the paper that I feel means that I cannot recommend it to be scientifically sound. There are also several minor issues.

There have been numerous interventions developed from illness perceptions research which are aimed at improving patient outcomes (Keogh et al., 2011; Petrie et al., 2002; Karamanidou et al., 2008; Broadbent et al., 2009) these are minimal (a few hours in length) and are almost exclusively based on giving information about illness. The premise being that informing the patient about their condition changes illness perceptions which in turn changes behaviour. In the present paper all participants receive an intervention - which is likely to be more substantial than simple information giving - they receive physical therapy (a new coping method/treatment). The manuscript does not make clear when this intervention is given but in the discussion (lines 181-183) concedes that this intervention was proximal enough to influence illness perceptions. If the intervention occurred between measurement points then the test-retest analysis is not a psychometric evaluation - it is an evaluation of the intervention. If the intervention occurs quite closely before both time-points of the test re-test analysis then it is still likely to significantly influence illness perceptions as, as you know, Leventhal's SRM would infer that illness perceptions are amenable to change as someone tests out new explanations or are given new coping methods (physical therapy). Given the inferred proximal link of the intervention to the test-retest analyses the results may be seriously misleading. One would not presume illness perceptions to be stable (or at least as stable as they can be) at this time. This may be reflected in the significant change in the brief IPQ score which is noted over one week. Of course, all patients are constantly finding new ways to cope with their illness and illness perceptions are thus likely always amenable to change meaning that test-retest at any two time-points would be influenced by this effect to some extent, however without a major intervention administered at a similar time point (as presumably occurs here) the effects of finding new ways of coping or making sense of illness would be balanced across the population.

A minor issue is that no rationale is given for the choice of measure for concurrent validity: why SF-36 mental health and not the other domains of the
SF-36? In one of the tables SF-36 Vitality is included - but this is not mentioned anywhere else. Also there are no hypotheses made regarding a priori expectations of what valid relationships between variables would look like. I refer you to the following article, Brink et al. (2011) (http://www.ncbi.nlm.nih.gov/pubmed/21722137), which does make hypotheses. Also, would the IPQ-R or other illness beliefs questionnaires be more useful for concurrent validity?

I respect the authors’ intentions in this research, and mostly my comments would reflect minor revisions - but I fear that the test-retest analysis is likely to be misleading and thus I cannot recommend this manuscript for publication.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no competing interests