Original article

Association between the 10 item Örebro Musculoskeletal Pain Screening Questionnaire and physiotherapists' perception of the contribution of biopsychosocial factors in patients with musculoskeletal pain

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D. Beales[*], M. Kendell, R.P. Chang, M. Håmsø, L. Gregory, K. Richardson, P. O'Sullivan

School of Physiotherapy and Exercise Science, Curtin University, GPO Box U1987, Perth, Western Australia 6845, Australia

ABSTRACT

Background: Contrasting evidence exists on the ability of clinicians to identify biopsychosocial factors in patients with musculoskeletal pain compared to questionnaires.
Objective: Evaluate associations between two aspects of clinical practice used to assess biopsychosocial factor contribution in patient presentations (physiotherapist perceptions versus shortened 10-item Örebro Musculoskeletal Pain Screening Questionnaire (ÖMPSQ-10)). Potential influence of physiotherapists' training, experience and confidence level were assessed.
Study design: Observational.
Methods: 90 musculoskeletal pain patients completed the ÖMPSQ-10 prior to their initial assessment. Independently, 19 treating physiotherapists provided their perception of contribution of biopsychosocial factors to the patient presentation. Pragmatic comparison of physiotherapist perceptions and the ÖMPSQ-10 was made with Spearman's correlations.
Results: Fair correlation existed between physiotherapists' perception of overall contribution of biopsychosocial factors to the patients' presentation and the ÖMPSQ-10 (0.39). There where moderate correlations for the domains of recovery expectancy (0.53), self-perceived ability to work (0.52) and ability to sleep (0.54). There where fair correlations for anxiety (0.33) and depression (0.32), and a poor correlation for fear (0.10). Correlations were influenced by therapist training in psychosocial aspects of pain, experience and confidence.
Conclusions: Physiotherapists' perceptions on biopsychosocial contributing factors to overall presentation of patients with musculoskeletal pain were reasonably correlated with a number of the domains in the ÖMPSQ-10. However, correlations for anxiety, depression and fear were not as good. This may reflect a lack of adequate training and/or the inadequacy of single questionnaire items to capture complex issues such as pain-related fear. Screening questionnaires are recommended as an adjunct to clinician perceptions.

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1. Introduction

Disabling musculoskeletal pain conditions are wide spread in many countries (Global Burden of Disease Study, 2015). There is increasing understanding of the importance of considering musculoskeletal pain disorders from a multidimensional, biopsychosocial perspective, with complex interactions of multiple factors influencing an individual's experience of pain (Gatchel et al., 2007; Vranceanu et al., 2009). There is evidence indicating that psychosocial factors (yellow flags) can have a larger impact on persistent pain, disability and work absenteeism than biomechanical or biomedical factors, as well as being strongly linked to the transition from acute to chronic pain (Overmeer et al., 2004; Chou et al., 2007; Mallen et al., 2007; Ramond et al., 2011).

* Corresponding author. Tel.: +61 89266 4644.
E-mail addresses: D.Beales@curtin.edu.au (D. Beales), M.Kendell@curtin.edu.au (M. Kendell), ruth@iinet.net.au (R.P. Chang), magnushamso@gmail.com (M. Håmsø), luke_gregory4@hotmail.com (L. Gregory), kanda.richardson@gmail.com (K. Richardson), P.OSullivan@curtin.edu.au (P. O'Sullivan).

However, it has been reported that some clinicians find it difficult to comprehend the multidimensional nature of pain disorders. Often this relates to difficulty understanding the role of psychosocial factors in musculoskeletal pain presentations or uncertainty on how to best assess these factors (Singla et al., 2015). While many clinicians are turning to screening tools in their clinical assessment to identify psychosocial factors, many do not despite such tools being readily available (Crawford et al., 2007; Kent et al., 2009; Daubs et al., 2010; Linton and Shaw, 2011). Furthermore, clinicians may focus on physical impairments and pain rather than routinely considering the contribution of psychosocial factors (Crawford et al., 2007; Kent et al., 2009; Beales et al., 2015). Clinicians' identification and management of psychosocial factors in patients with musculoskeletal pain can be influenced by an individual's beliefs, culture of practice, experience using formulated guidelines, sufficiency of training, knowledge and skills, confidence levels and time constraints (Crawford et al., 2007; Kent et al., 2009).

Evidenced based guidelines for the management of both acute and chronic musculoskeletal pain disorders recommend clinicians screen for psychosocial factors to assist in understanding the multidimensional nature of a patients presentation (Kendall et al., 2004; Airaksinen et al., 2006; van Tulder et al., 2006; Chou et al., 2007; Koes et al., 2010). Of the available screening tools, the STarT Back Screening Tool (Hill et al., 2008) and Örebro Musculoskeletal Pain Screening Questionnaire (ÖMPSQ) (Linton and Hallden, 1998) are two that have been widely researched and implemented in clinical practice due to ease of application. More recently, a short form of the ÖMPSQ (ÖMPSQ-10) has been developed, improving its clinical utility due to its shorter length (Linton et al., 2011).

Despite their recommended use, there appears to be differing opinions in the literature with regards to the value and validity of formal screening tools compared to clinician judgement and intuition in the identification of biopsychosocial factors and assessment of risk of poor prognosis. Some studies report that clinicians make inconsistent risk estimations using clinical intuition alone when compared to formal screening tools (Bishop and Foster, 2005). Furthermore, clinician ability to identify individual psychosocial factors such as depression (Haggman et al., 2004), fear-avoidance beliefs (Calley et al., 2010) and psychological distress (Grevitt et al., 1998; Daubs et al., 2010) has been reported to be poor in comparison to formal screening tools. In contrast, other authors have suggested that clinicians' prognostic assessment is similar or even preferable to that of formal screening tools (Jellema et al., 2007; Vibe Fersum et al., 2009; Dagfinrud et al., 2013). Interestingly, the studies that have shown favourable results for clinician risk assessment and/or identifying psychosocial factors over that of screening questionnaires have tended to use 'real patients' presenting with spinal pain rather than videos or vignettes. Further, the potential influence of clinician attributes such as training, experience and level of confidence in identifying and managing biopsychosocial factors does not appear to have previously been considered in studies evaluating the association between clinician perspective and formal questionnaires. Understanding how clinician attributes influence the association between clinicians' perspective or judgement and screening tool results may assist in developing education strategies for clinicians and/or refining recommendations regarding the use of screening tools.

The aim of this study was to evaluate the association between the short-form ÖMPSQ-10 and physiotherapists' perception of the contribution of multidimensional, biopsychosocial factors in patients with musculoskeletal pain. This was performed pragmatically in clinical settings in an attempt to reflect current day physiotherapy practice. The influence of physiotherapists' training, experience and level of confidence in identifying and managing psychosocial factors were also evaluated given the potential of these clinician attributes to influence these associations. A secondary aim of this study was to determine the test–retest reliability of the ÖMPSQ-10 in subjects with musculoskeletal pain as this has not been previously reported.

2. Methods

2.1. Study design

This study was a pragmatic, observational study with ethical approval obtained from Curtin University's Human Research Ethics Committee (Approval Number PT0199).

2.2. Participants

Physiotherapists were recruited by invitation from private and public outpatient physiotherapy centres throughout Perth, Western Australia. A total of 19 physiotherapists participated (female n = 9, male n = 10) based upon convenience sampling. New patients (n = 90) seeking treatment from these physiotherapists (who had not previously been seen by the physiotherapist) were invited to participate by the treating physiotherapist. Data was not collected on the number of patients invited to participate who declined. Inclusion criteria included musculoskeletal pain of any duration or body region. This inclusion criterion was decided pragmatically as the best reflection of current clinical practice. Participants were excluded if they had inadequate English language skills to complete the questionnaire. Both physiotherapists and the patients provided written informed consent.

To determine the test–retest reliability of an online version of the ÖMPSQ-10, a convenience sample of 39 participants were recruited by invitation. For this, the ÖMPSQ-10 was completed on two separate occasions within one week (mean was 1.7 days with a range of 1–6 days).

2.3. Shortened 10 item Örebro Musculoskeletal Pain Screening Questionnaire

The ÖMPSQ-10 was chosen as the screening tool of interest in this study because it is multidimensional, is not worded to be body region specific and is increasingly being utilised in clinical practice as an alternative to the full length version.

The ÖMPSQ-10 was developed from the ÖMPSQ to reduce the tool to one page with 10 items (Linton et al., 2011). Two items were selected from each of the five factors (self-perceived function, pain experience, distress, fear avoidance beliefs and return to work expectancy) shown to have the greatest predictive power (Linton et al., 2011). The ÖMPSQ-10 has been validated against its original version and has been recommended for clinical purposes (Linton et al., 2011), taking less time to complete and score than the original version. Debate exists regarding this process of development (Linton et al., 2015), with a 12 item version of the Örebro available with potentially enhanced psychometric properties (Gabel et al., 2013). The test–retest reliability for the original ÖMPSQ has been reported between 0.80 and 0.98 (Linton and Halldén, 1998; Linton and Boersma, 2003; Grotle et al., 2006; Vos et al., 2009), with intervals ranging from two days (Grotle et al., 2006) up to two to four weeks (Linton and Boersma, 2003). The test–retest reliability has not been evaluated for the ÖMPSQ-10.