Best Practice & Research Clinical Rheumatology 27 (2013) 625–635

Contents lists available at ScienceDirect

Best Practice & Research Clinical Rheumatology

journal homepage: www.elsevierhealth.com/berh

5

Psychological factors and treatment opportunities in low back pain

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Keywords:
Low back pain
Psychological predictors
Moderators
Mediators
Psychological interventions

A B S T R A C T

A large body of evidence suggests that psychological factors, including emotions, beliefs and avoidant behaviours, are linked to poor outcomes in low back pain. At the same time, the evidence from trials of psychological interventions suggests that they improve outcomes mostly in the short term and against passive controls only. These suboptimal results may be due to low competency or fidelity in delivery, or inadequate matching of treatment methods with specific patient problems. Most importantly, there is insufficient theoretical guidance and integration in the design, selection and delivery of methods that precisely target known process of pathology. We identify several new directions for research and opportunities to improve the impact of psychological interventions and to change clinical practice. These include better ways to conceptualise and deliver reassurance at early stages of back pain, utilising models such as the psychological flexibility model to guide treatment development, and essentially extend the fear–avoidance model.

The past few decades have seen a flurry of research on psychological aspects of low back pain (LBP). While some areas of research have yielded consistent and convincing evidence for the role of psychological factors in LBP, others have produced only modest evidence at best. Even where there has been significant success, this has not yet changed the facts on the ground: LBP remains one of the most prevalent and costly health problems and has been estimated to affect 632 million people worldwide, placing it as the leading cause of years lived with disability (see Chapter 1 in this issue).

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http://dx.doi.org/10.1016/j.berh.2013.09.010

The continuing study of psychological factors associated with back pain may offer unique opportunities to develop and deliver new treatments. Such goals are perhaps best served by a focus on factors that are modifiable and appear most important. So far, we know that ignoring the psychological aspects of the pain experience, including unhelpful beliefs and emotional responses, can impede recovery. It is therefore timely to examine which psychological aspects should be addressed in consultations for back pain, how they should be addressed and who should do it. A sound starting point for a synthesis of diverse data sets is to consider our working models. We therefore start with a short review of current models as a way to organise the specific psychological factors examined later.

The aims of this review are to:

a) summarise key models of psychological interventions,
b) review key psychological processes in LBP outcomes,
c) present the evidence on the effectiveness of current psychological treatment approaches and
d) identify promising new approaches and speculate on future directions, including research priorities and practical implications for clinicians and patients.

Models

The cognitive behavioural model and the cognitive behaviour therapy (CBT) approach are clearly the dominant current psychological framework and treatment approach to chronic pain. The general cognitive behavioural model is very broad and in some ways very flexible [1]. In fact, all of the other models we present are each more-or-less specific versions of this broader model. The essence of the cognitive behavioural model of chronic pain is rather simple. A key concept is that human emotions and behaviour are determined largely by how one views the world, including common errors and biases [2]. Beyond that, the model proposes that: (a) thoughts, beliefs and behaviour patterns are important in understanding adjustment to chronic pain; (b) thoughts, beliefs, emotions and behaviours interact with each other and with the situations where they occur; and (c) thoughts, beliefs and behaviour patterns can be targeted for change by specific methods of skills – training and learning.

The fear–avoidance model [3], again, is in many ways a more specific version of the CBT model. It was designed with a focus on catastrophizing and fear and meant to explain not all disabling chronic pain but only some, those cases showing a pattern of phobia-like avoidance. According to this model, two routes are available when one has an acute painful injury. One route includes normal activity re-engagement and recovery. The other includes catastrophising about pain, fear, avoidance, inactivity, possible physical deconditioning, possible depression, persisting pain and becoming stuck in a fear and avoidance cycle.

An alternative or perhaps companion to the fear–avoidance model is what is called the avoidance–endurance model [4]. This model proposed that in addition to the fear–avoidance pathway to disability, there is an opposite pathway, an endurance-related response and subsequent physical overuse. The endurance component in particular seems to include two key psychological components: the suppression of pain-related thoughts and pain persistence behaviour [5].

Acceptance of pain and acceptance-based approaches to chronic pain are increasingly recognised in chronic pain research and treatment development [1,6,7]. There is, however, a wider model behind acceptance, called the psychological flexibility model [8,9]. Psychological flexibility is defined as the capacity to persist with behaviour or change it in a way that is guided by one's goals, in touch with what the situation at hand allows and occurring in a context where cognitive-based influences on behaviour interact with direct experiences [10]. It can also be described as behaviour that is open to experience, connected to the present moment and engaged in actions linked to goals and values.

Summary of models

As recent attempts to organise and summarise the range of psychological approaches to chronic pain attest, these are indeed wide and varied [1]. As there is no one unifying model, this must mean that practice is also not unified, and perhaps clinicians' choices for treatment methods are left to the influences of their preferred model. This non-uniformity and the role of clinician preference may mean