



## Pain SIG Research Review

**Topic:** Physical Therapist Low Back Pain Related Attitudes and Beliefs

**Introduction:** Low back pain (LBP) is a complex disorder and makes up a large percentage of physical therapist practice. The LBP-related attitudes and beliefs of physical therapists may be an important factor in the management of patients with LBP.

**General Literature Overview:** The literature suggests that the LBP-related attitudes and beliefs of physical therapists influence management strategies, impacts patient expectations, and helps to shape the attitudes and beliefs of patients. The literature is less clear on the impact that physical therapist attitudes and beliefs have on patient outcomes.

### Articles:

1. Linton SJ, Vlaeyen J, Ostelo R. The back pain beliefs of health care providers: are we fear-avoidant?. *J Occup Rehabil.* 2002;12(4):223-232.
2. Bishop A, Foster N, Thomas E, Hay E. How does the self-reported clinical management of patients with low back pain relate to the attitudes and beliefs of health care practitioners? A survey of UK general practitioners and physiotherapists. *Pain.* 2008;135:187-195.
3. Simmonds MJ, Derghazarian T, Vlaeyen JW. Physiotherapists' knowledge, attitudes, and intolerance of uncertainty influence decision making in low back pain. *Clin J Pain.* 2012;28(6):467-474.
4. Daykin AR, Richardson B. Physiotherapists' pain beliefs and their influence on the management of patients with chronic low back pain. *Spine (Phila Pa 1976).* 2004;29(7):783-795.
5. Darlow B, Dowell A, Baxter GD, Mathieson F, Perry M, Dean S. The enduring impact of what clinicians say to people with low back pain. *Ann Fam Med.* 2013;11(6):527-534.
6. Lakke SE, Soer R, Krijnen WP, van der Schans CP, Reneman MF, Geertzen JH. Influence of Physical Therapists' Kinesiophobic Beliefs on Lifting Capacity in Healthy Adults. *Phys Ther.* 2015;95(9):1224-1233.
7. Overmeer T, Boersma K, Denison E, Linton SJ. Does teaching physical therapists to deliver a biopsychosocial treatment program result in better patient outcomes? A randomized controlled trial. *Phys Ther.* 2011;91(5):804-819.
8. Beneciuk JM, George SZ. Pragmatic Implementation of a Stratified Primary Care Model for Low Back Pain Management in Outpatient Physical Therapy Settings: Two-Phase, Sequential Preliminary Study. *Phys Ther.* 2015;95(8):1120-1134.
9. Rufa A, Kolber MJ, Rodeghero J, Cleland J. The impact of physical therapist attitudes

and beliefs on the outcomes of patients with low back pain. *Musculoskelet Sci Pract.* 2021;55.

### Impact on Management Strategies:

-Linton S, Vlaeyen J, Ostelo R. The Back Pain Beliefs of Health Care Providers: Are We Fear-Avoidant? <sup>1</sup>

*The purpose of this study was to survey the level of fear-avoidance beliefs for practicing general practitioners and physical therapists and to relate this to self-reported practice behaviors for patients with back pain. To this end, 60 general practitioners and 71 physical therapists were recruited. These participants completed a questionnaire including 11 items slightly revised from instruments designed to assess fear-avoidance beliefs in patients, and four items about treatment practices. The results indicated that these health care practitioners on the average generally held beliefs that are consistent with the current evidence, but there were also indications that some practitioners held beliefs reflecting fear-avoidance. More than two-thirds reported that they would advise a patient to avoid painful movements, more than one-third believed a reduction in pain is a prerequisite for return-to work, while more than 25% reported that they believe sick leave is a good treatment for back pain. These beliefs were found to be related to reported practice behavior. Those with high levels of fear-avoidance beliefs were compared to those with low levels. Those with high levels of fear-avoidance belief had an increased risk for believing sick leave to be a good treatment (RR D 2.0; 90%CI D 1.02–3.92), not providing good information about activities (RR D 1.7; 90%CI D 1.19–2.45), and being uncertain about identifying patients at risk for developing persistent pain problems (RR D 1.5; 90%CI D 1.00–2.27). It is concluded that some practitioners hold beliefs reflecting fear-avoidance and that these beliefs may influence treatment practice.*

-Bishop A, Foster N, Thomas E, Hay E. How Does the Self-Reported Clinical Management of Patients with Low Back Pain Relate to the Attitudes and Beliefs of Health Care Practitioners? A Survey of UK General Practitioners and Physiotherapists.<sup>2</sup>

Guidelines for the management of low back pain (LBP) have existed for many years, but adherence to these by health care practitioners (HCPs) remains suboptimal. The aim of this study was to measure the attitudes, beliefs and reported clinical behaviour of UK physiotherapists (PTs) and general practitioners (GPs) about LBP and to explore the associations between these. A cross-sectional postal survey of GPs (n= 2000) and PTs (n = 2000) was conducted that included the Pain Attitudes and Beliefs Scale (PABT.PT), and a vignette of a patient with non-specific LBP (NSLBP) with questions asking about recommendations for work, activity and bedrest. Data from 1022 respondents (442 GPs and 580 PTs) who had recently treated patients with LBP were analysed. Although the majority of HCPs reported providing advice for the vignette patient that was broadly in line with guideline recommendations, 28% reported they would advise this patient to remain off work. Work advice was significantly related to the PABS.PT scores with higher biomedical ( $F_{1,986} = 77.5, p < 0.0001$ ) and lower behavioural ( $F_{1,981} = 31.9, p < 0.001$ ) scores associated with advice to remain off work. We have demonstrated that the attitudes and reported practice behaviour of UK GPs and PTs for patients with NSLBP are diverse. Many HCPs held the belief that LBP necessitates some avoidance of activities and work. The attitudes and beliefs of these HCPs were associated with their self-reported clinical behaviour regarding advice about work. Future studies need to investigate whether approaches aimed at modifying these HCP factors can lead to improved patient outcomes.

-Simmonds M, Derghazarian T, Vlaeyen J. Physiotherapists' Knowledge, Attitudes, and Intolerance of Uncertainty Influence Decision Making in Low Back Pain.<sup>3</sup>

Background: Low back pain (LBP) remains a common health problem that is characterized by ambiguity and can progress to chronic disability. In recent years researchers have started to focus on understanding whether and how the attitudes and beliefs of the health care providers influence the management and the outcome of LBP. Objectives: The purpose of this study was to characterize Quebec physiotherapists' (PTs') knowledge, attitudes, and beliefs about LBP and their intolerance of uncertainty (IU) to determine whether and how these characteristics predict judgments of assessment and treatment recommendations. Methods: A total of 108 PTs from Quebec, Canada completed the Pain Attitudes and Beliefs Scale for Physiotherapists, the Fear of Pain Questionnaire, and the Intolerance of Uncertainty Scale. Participants also read 2 vignettes that described patients with LBP and reported their assessment and treatment recommendations. Results: Only 13 PTs (12%) were able to identify clinical practice guidelines for LBP. In addition, PTs did not generally agree with recommendations to return to work or activity. A biomedical orientation was a significant predictor of clinical judgments of spinal pathology and was associated with an increased sense of IU. In contrast, a behavioral approach better predicted treatment recommendations for return-to-work or activity. Finally, the association between IU and treatment decisions was mediated by treatment orientation. Discussion: Health care practitioners play a significant role in the management of LBP. Research on the process of knowledge translation, clinical decision making, and dealing with uncertainty to avoid aggravating LBP disability is clearly warranted.

#### [Impact on Patient Expectations and Beliefs:](#)

-Daykin A, Richardson B. Physiotherapists' Pain Beliefs and Their Influence on the Management of Patients with Chronic Low Back Pain.<sup>4</sup>

**Purpose.** Little is known about physiotherapists' pain beliefs and whether they influence behavior within therapeutic encounters with patients. This qualitative study explored physiotherapists' pain beliefs with the purpose of highlighting the nature of their beliefs and the role they played within their management of chronic low back pain. **Methods.** Six physiotherapists were purposefully sampled along with 12 of their patients with chronic low back pain (two patients each). A qualitative exploration of physiotherapists' pain beliefs within the context of a clinical situation was carried out using semi structured interviews and observations at designated stages throughout therapeutic encounters with their patients. The data were prepared and analyzed according to a grounded theory approach. **Results.** The themes that emerged from the data indicated that the pain beliefs of physiotherapists in this study were determined by a number of perspectives including their beliefs regarding the development of craft knowledge needed to manage chronic low back pain, beliefs regarding the clinical characteristics of patients with chronic low back pain they considered to be "good" to treat and the challenge of patients who were "difficult" to treat, and pain beliefs within the therapeutic encounter. A tentative theory was developed which proposed that the physiotherapists' biomedically oriented pain beliefs influenced their clinical reasoning processes including the explanations given to the patients. **Conclusions.** The findings suggest that in order to maximize the rehabilitation potential of patients with chronic low back pain, physiotherapists need to be aware that their pain beliefs may influence their management of these patients.

-Darlow B, Dowell A, Baxter D, Mathieson F, Perry M, Dean S. The Enduring Impact of What Clinicians Say to People With Low Back Pain.<sup>5</sup>

**PURPOSE** The purpose of this study was to explore the formation and impact of attitudes and beliefs among people experiencing acute and chronic low back pain. **METHODS** Semi structured qualitative interviews were conducted with 12 participants with acute low back pain (less than 6 weeks' duration) and 11 participants with chronic low back pain (more than 3 months' duration) from 1 geographical region within New Zealand. Data were analyzed using an Interpretive Description framework. **RESULTS** Participants' underlying beliefs about low back pain were influenced by a range of sources. Participants experiencing acute low back pain faced considerable uncertainty and consequently sought more information and understanding. Although participants searched the Internet and looked to family and friends, health care professionals had the strongest influence upon their attitudes and beliefs. Clinicians influenced their patients' understanding of the source and meaning of symptoms, as well as their prognostic expectations. Such information and advice could continue to influence the beliefs of patients for many years. Many messages from clinicians were interpreted as meaning the back needed to be protected. These messages could result in increased vigilance, worry, guilt when adherence was inadequate, or frustration when protection strategies failed. Clinicians could also provide reassurance, which increased confidence, and advice, which positively influenced the approach to movement and activity. **CONCLUSIONS** Health care professionals have a considerable and enduring influence upon the attitudes and beliefs of people with low back pain. It is important that this opportunity is used to positively influence attitudes and beliefs.

-Lakke S, Soer R, Kriknen W, van der Schans C, Reneman M, Geertzen J. Influence of Physical Therapists' Kinesiophobic Beliefs on Lifting Capacity in Healthy Adults.<sup>6</sup>

**Background.** Physical therapists' recommendations to patients to avoid daily physical activity can be influenced by the therapists' kinesiophobic beliefs. Little is known about the amount of influence of a physical therapist's kinesiophobic beliefs on a patient's actual lifting capacity during a lifting test. **Objective.** The objective of this study was to determine the influence of physical therapists' kinesiophobic beliefs on lifting capacity in healthy people. **Design.** A blinded, cluster-randomized cross-sectional study was performed. **Methods.** The participants (n\_256; 105 male, 151 female) were physical therapist students who performed a lifting capacity test. Examiners (n\_24) were selected from second-year physical therapist students. Participants in group A (n\_124) were tested in the presence of an examiner with high scores on the Tampa Scale of Kinesiophobia for health care providers (TSK-HC), and those in group B (n\_132) were tested in the presence of an examiner with low scores on the TSK-HC. Mixed-model analyses were performed on lifting capacity to test for possible (interacting) effects. **Results.** Mean lifting capacity was 32.1 kg (SD\_13.6) in group A and 39.6 kg (SD\_16.4) in group B. Mixed-model analyses revealed that after controlling for sex, body weight, self-efficacy, and the interaction between the examiners' and participants' kinesiophobic beliefs, the influence of examiners' kinesiophobic beliefs significantly reduced lifting capacity by 14.4 kg in participants with kinesiophobic beliefs and 8.0 kg in those without kinesiophobic beliefs. **Limitations.** Generalizability to physical therapists and patients with pain should be studied. **Conclusions.** Physical therapists' kinesiophobic beliefs negatively influence lifting capacity of healthy adults. During everyday clinical practice, physical therapists should be aware of the influence of their kinesiophobic beliefs on patients' functional ability.

[Impact on Outcomes:](#)

-Overmeer T, Boersma K, Denison E, Linton S. Does Teaching Physical Therapists to Deliver a Biopsychosocial Treatment Program Result in Better Patient Outcomes? A Randomized Controlled Trial.<sup>7</sup>

**Background.** Psychosocial prognostic factors are important in the development of chronic pain, but treatment providers often lack knowledge and skills to assess and address these risk factors. **Objective.** The aim of this study was to examine the effects on outcomes (pain and disability) in patients of a course about psychosocial prognostic factors for physical therapists. **Design.** This study was a randomized, controlled trial. **Setting.** The setting was primary care practice. **Participants.** Forty-two primary care physical therapists attended an 8-day university course (over 8 weeks) aimed at identifying and addressing psychosocial risk factors. **Intervention.** The physical therapists were randomly assigned to either the course or a waiting list. They treated consecutive patients with acute and subacute musculoskeletal pain both before and after the course. **Measurements.** We measured physical therapists' attitudes and beliefs about psychosocial factors, knowledge, and skills before and after the course. We measured patients' pain, disability, catastrophizing, and mood at the start of treatment and at a 6-month follow-up. **Methods.** The physical therapists were randomly assigned to either the course or a waiting list. They treated consecutive patients with acute and subacute musculoskeletal pain both before and after the course. **Results.** Pain and disability outcomes in all patients of physical therapists who had participated in the course or in patients at risk of developing long-term disability who had higher levels of catastrophizing or depression were not significantly different from those outcomes in patients of physical therapists who had not participated in the course. Pain and disability outcomes in patients with a low risk of developing long-term disability—and pain outcomes in patients with a high risk of developing long-term disability—were not dependent upon whether the attitudes and beliefs of their physical therapists changed during the course. However, disability outcomes in patients with a high risk of developing long-term disability may have been influenced by whether the attitudes and beliefs of their physical therapists changed. **Limitations.** A limitation of this study was that actual practice behavior was not measured. **Conclusions.** An 8-day university course for physical therapists did not improve outcomes in a group of patients as a whole or in patients with a risk of developing long-term disability. However, patients who had a risk of developing long-term disability and had higher levels of catastrophizing or depression may have shown greater reductions in disability if the attitudes and beliefs of their physical therapists changed during the course.

-Beneciuk J, George S. Pragmatic Implementation of a Stratified Primary Care Model for Low Back Pain Management in Outpatient Physical Therapy Settings: Two-Phase, Sequential Preliminary Study.<sup>8</sup>

**Background:** The effectiveness of risk stratification for low back pain (LBP) management has not been demonstrated in outpatient physical therapy settings. **Objective:** The purposes of this study were: (1) to assess implementation of a stratified care approach for LBP management by evaluating short-term treatment effects and (2) to determine feasibility of conducting a larger-scale study. **Design:** This was a 2-phase, preliminary study. **Methods:** In phase 1, clinicians were randomly assigned to receive standard (n=6) or stratified care (n=6) training. Stratified care training included 8 hours of content focusing on psychologically informed practice. Changes in LBP attitudes and beliefs were assessed using the Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT) and the Health Care Providers Pain and Impairment Relationship Scale (HC-PAIRS). In phase 2, clinicians receiving the stratified care training were instructed to incorporate those strategies in their

practice and 4-week patient outcomes were collected using a numerical pain rating scale (NPRS), and the Oswestry Disability Index (ODI). Study feasibility was assessed to identify potential barriers for completion of a larger-scale study. **Results:** In phase 1, minimal changes were observed for PABS-PT and HC-PAIRS scores for standard care clinicians (Cohen  $d=0.00-0.28$ ). Decreased biomedical ( $-4.5\pm 2.5$  points,  $d=1.08$ ) and increased biopsychosocial ( $+5.5\pm 2.0$  points,  $d=2.86$ ) treatment orientations were observed for stratified care clinicians, with these changes sustained 6 months later on the PABS-PT. In phase 2, patients receiving stratified care ( $n=67$ ) had greater between-group improvements in NPRS (0.8 points; 95% confidence interval= $0.1, 1.5$ ;  $d=0.40$ ) and ODI (8.9% points; 95% confidence interval= $4.1, 13.6$ ;  $d=0.76$ ) scores compared with patients receiving standard physical therapy care ( $n=33$ ). **Limitations:** In phase 2, treatment was not randomly assigned, and therapist adherence to treatment recommendations was not monitored. This study was not adequately powered to conduct subgroup analyses. **Conclusions:** In physical therapy settings, biomedical orientation can be modified, and risk-stratified care for LBP can be effectively implemented. Findings from this study can be used for planning of larger studies.

-Rufa, A, Kolber M, Rodeghero J, Cleland J. The Impact of Physical Therapist Attitudes and Beliefs on the Outcomes of Patients with Low Back Pain.<sup>9</sup>

*Background:* Low back pain (LBP) is a common problem that places a major burden on individuals and society. It has been proposed that patients treated by biomedically oriented clinicians will have worse outcomes than those treated by biopsychosocially oriented clinicians. *Objective:* To investigate the impact of physical therapist LBP related attitudes and beliefs on the outcomes of patients with LBP. *Design:* Retrospective cohort design. *Method:* United States based physical therapists utilizing the Focus on Therapeutic Outcomes, Inc. (FOTO) database were surveyed using the Health Care Providers' Pain and Impairment Relationship Scale (HC-PAIRS) and the Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT). Outcomes were measured using average Computerized Lumbar Functional Scale change scores (CLFS) and CLFS residual scores. *Results:* Analysis was performed on outcome data from 78 physical therapist and included 2345 patients. HC-PAIRS was a univariate predictor of average CLFS change scores and average CLFS residual scores. PABS-PT Biomedical subscale was a univariate predictor of average CLFS change scores. After adjusting for confounding variables, higher HC-PAIRS scores and PABS-BM scores were associated with a greater change in average CLFS score, and higher PABS-BM scores were associated with higher CLFS residual scores. *Conclusion:* Physical therapists who believed in a stronger relationship between pain and disability had improved patient outcomes.

*This Research Review was provided by Adam Rufa PT, PhD, DPT. Adam is an Associate Professor in the PT Education Department at Upstate Medical University in Syracuse, NY. His clinical practice, teaching, and research are focused on maximizing the outcomes of patients with pain. Adam can be contacted by e-mail at [rufaa@upstate.edu](mailto:rufaa@upstate.edu) and his Twitter handle is @arufa.*