Management of Low Back Pain by Physical Therapists in Quebec: How Are We Doing?

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ABSTRACT

Purpose: In this study, we characterized physiotherapists' attitudes and beliefs about the bio-psychosocial problem of low back pain (LBP), their use of clinical practice guidelines (CPGs), and the extent to which their advice and treatment is in line with best-evidence CPGs.

Methods: One hundred eight physiotherapists completed an online survey that included questionnaires exploring the strength of physiotherapists' biomedical and bio-psychosocial orientations toward the management of LBP: the Pain Attitudes and Beliefs Scale for Physiotherapists and the Attitudes to Back Pain Scale for musculoskeletal practitioners. In addition, participants responded to questions about treatment recommendations for patients in two vignettes.

Results: Only 12% of respondents were aware of CPGs. Physiotherapists with a stronger biomedical orientation scored the severity of spinal pathology higher in the patient vignettes. A stronger biomedical orientation was also associated with disagreement with recommendations to return to usual activity or work.

Conclusions: The results suggest limited awareness by physiotherapists of best-evidence CPGs and contemporary understandings of LBP that support early activation and self-management. Research to better understand and facilitate the implementation of best-evidence professional education and clinical practice is an urgent priority.

Key Words: practice guideline; mobility limitation; low back pain; health knowledge, attitudes, practice.

RÉSUMÉ

Objectif : L'objectif de cette étude était de caractériser les attitudes et les croyances des physiothérapeutes concernant les problèmes bio-psychosociaux liés aux lombalgies, l'utilisation des lignes directrices de pratique clinique par ces professionnels et le degré de cohérence entre leur opinion et leur traitement et les meilleures lignes directrices de pratique clinique fondées sur des éléments probants.

Méthode : Un échantillon de 108 physiothérapeutes a rempli un sondage en ligne qui comprenait des questionnaires qui se penchaient sur la teneur des orientations biomédicales et psychosociales des physiothérapeutes pour la gestion de lombalgies : échelle des attitudes et des croyances face à la douleur pour les physiothérapeutes (PABS-PT) et échelle des attitudes face à la douleur dans les cas de lombalgie pour les praticiens du domaine musculosquelettique (ABS-mp). Les participants ont aussi répondu à des questions sur les recommandations de traitement pour deux cas fictifs.

Résultats : Seuls 12 % des répondants connaissaient les lignes directrices de pratique clinique. Les physiothérapeutes avec l'orientation biomédicale la plus élevée ont évalué les pathologies rachidiennes présentées avec plus de gravité. Une orientation biomédicale plus élevée a également été associée à un désaccord avec les recommandations visant un retour aux activités normales ou au travail.

Conclusions : Ces résultats suggèrent un faible degré de sensibilisation des physiothérapeutes aux lignes directrices de pratique clinique fondées sur des éléments probants et aux concepts contemporains de la lombalgie qui repose sur une activation précoce et sur l'autogestion. La recherche en vue de mieux comprendre et de faciliter la mise en place d'éducation des professionnels sur de meilleures preuves cliniques et de pratique clinique est une priorité urgente.

A recurring challenge among physiotherapists working in the orthopaedic setting is managing patients with low back pain (LBP) and helping them return to their normal life in a reasonable time frame. LBP is a highly

prevalent musculoskeletal problem, estimated to afflict three out of four people at least once in their lifetime.¹ Some individuals who experience LBP will develop persistent symptoms and disability. These individuals may be in

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rehabilitation and on sick leave for extended periods, which is a major human and socioeconomic problem.²

Historically, management of LBP in rehabilitation was based on the premise of pain as an indication of tissue damage.³ This acute pain model is biomedically oriented and structurally driven. In this model, assessment and treatment focus on identifying and treating the structure believed to be the pain generator and treating the symptom and physical impairment. As a result, major components of physiotherapy in this model are rest for recovery and the application of passive treatments professed to reduce pain, facilitate tissue healing, and decrease impairment. Passive treatments include manual therapy and thermal and electrotherapeutic modalities.

However, extensive research on pain in the past few decades has shown that pain frequently persists beyond the phase of tissue healing and frequently recurs. Indeed, emerging evidence has suggested that chronic pain is a disease in itself and that it is generally managed rather than cured. Moreover, and particularly in patients with chronic LBP, the biomedical model does not adequately explain the impact of pain on the person, nor does it adequately explain the wide variation in symptom presentation (e.g., pain intensity or distribution), symptom impact (e.g., physical disability, psychological distress), and treatment outcome. Finally, an approach focusing on rest until recovery and passive treatment is now known to likely contribute to the problem of disability and dependence on the health care system, as well as to economic costs.

In the past decade, evidence-based practice (EBP) has gained momentum as the expected standard of clinical care. Evidence-based practice is defined as the integration of best research evidence with consideration of clinical expertise and patient preferences.⁴ Currently, emerging lines of evidence as well as a growing clinical consensus support an expanded conceptualization of LBP to encompass not only the patient with pain but also the practitioner, the health care system, and a society that can both ameliorate and aggravate the human and economic impact of LBP.

Contemporary best-evidence physical therapy practice is made up of a management approach that is both patient centred and patient informed and that is based on increasing or maintaining activity and on self-management.^{2,5} Thus, clinical practice guidelines (CPGs) for LBP based on best evidence recommend that in the absence of severe spinal pathology (or other severe medical problems), individuals with LBP should be reassured and provided with information that includes the fact that LBP is a common, self-limiting condition with a good prognosis and that they should maintain or resume activity and, in most cases, stay at work or return to work early (i.e., after a few days and probably before the pain is totally resolved).^{1,5,6}

Physiotherapists may find the implementation of such clinical guidelines difficult if the treatment recommenda-

tions deviate from those taught in professional training or continuing education programs or that are part of common practice. They may also have attitudes toward and beliefs about LBP that do not necessarily align with best-evidence recommendations. That it may be difficult to implement CPG treatment recommendations that are not in line with patients' treatment expectations is acknowledged; implementation may require more time spent on education, may take more treatment time, and may also influence patients' satisfaction with their care. Finally, implementation of guidelines that promote self-management may have financial implications for physiotherapists, especially those in private practice.

Clearly, multiple factors within and between the domains of the therapist, the patient, and the health and social care systems influence treatment decisions and clinical practice. A program of research is necessary to add clarity to this complexity.

The overall purpose of this study was to examine the extent to which physiotherapists' attitudes and beliefs about LBP are in line with current understandings and whether their treatment decisions are in line with best-evidence CPGs.

Our specific objectives in this study were to (1) characterize Quebec physiotherapists' attitudes toward and beliefs about LBP and their knowledge of CPGs; (2) examine the relationships between physiotherapists' attitudes toward and beliefs about LBP and their judgments and treatment recommendations via two vignettes of patients with LBP; and (3) estimate the extent to which Quebec physiotherapists' assessment and treatment recommendations are in line with best-evidence CPGs via two vignettes of patients with LBP.

METHODS

Study Design

This cross-sectional survey was approved by the McGill University Faculty of Medicine Institutional Review Board before initiation.

Participants

Participants were drawn from the population of Quebec-licensed physiotherapists working in the Province of Quebec, Canada. All physiotherapists in Quebec must register with the Ordre Professionnel de la Physiothérapie du Québec (OPPQ), and a list of Quebec physiotherapists is available on the OPPQ Web site. Physiotherapists who worked with an outpatient adult clientele in rheumatology or orthopaedics ($n = 2,428$) were randomly selected in proportion to the number of therapists working within each of the 16 administrative regions in Quebec. Initial contact was made by telephone, rather than by mail, to avoid sampling bias, because the OPPQ was able to provide mailing addresses only for those physiotherapists who had previously agreed to be contacted for research purposes. Once each physiotherapist was con-

tacted by telephone, the study was briefly described, and eligibility and willingness to participate were determined. Physiotherapists were eligible for inclusion in the study if they were working in private or public practice with an outpatient adult clientele, in rheumatology or orthopaedics, and regularly treated patients with LBP. Those who met the inclusion criteria and agreed to participate were given the choice of completing the survey instrument in English or in French. Participation in the online survey was then taken as informed consent. Retired physiotherapists and those not directly involved in the management of LBP were excluded from the study.

Demographic, educational, and occupational information was collected from all participants. The baseline questionnaire captured data on the physiotherapists' clinical experience with patients with LBP and their educational background, practice setting, and postgraduate training. Participants were also asked whether they were aware of CPGs and, if so, to identify the ones with which they were familiar. In addition, physiotherapists completed standardized questionnaires that measured their attitudes toward and beliefs about LBP. Data were collected between July 2008 and March 2009. Potential participants were contacted by phone, advised about the study, and invited to participate in the online survey as a volunteer. Participation was taken as informed consent.

Standardized Questionnaires

The Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT) was originally developed by Ostelo and colleagues.⁷ It is a self-administered questionnaire aimed at measuring the strength of physiotherapists' treatment orientations in chronic LBP on two sub-scales: Biomedical Orientation (BM) and Behavioural Orientation (BH). *Biomedical orientation* refers to applying the biomedical model of disease, whereby pain and disability are believed to result from a specific structural impairment and treatment addresses that impairment. By contrast, *behavioural orientation* refers to applying the evidence-based bio-psychosocial model, in which it is understood that pain is not simply an indication of a structural problem or tissue damage, and psychosocial factors are considered. A higher score on each sub-scale indicates a stronger biomedical or behavioural orientation, respectively. The original questionnaire contained 31 items, which was later reduced to 19 items, after a revision by Houben and colleagues,⁸ in an effort to strengthen the BH sub-scale. Each item is scored on a six-point Likert scale (1 = totally disagree, 6 = totally agree). In a systematic review of questionnaires on health care practitioners' attitudes toward and beliefs about LBP, Bishop and colleagues⁹ concluded that the PABS-PT's reliability is limited. Houben and colleagues⁸ found that although Cronbach's α was satisfactory at 0.84 for the biomedical factor,¹⁰ the internal consistency of the bio-psychosocial factor, despite improvements over its original value of

0.54, remained low at 0.68. The PABS-PT has adequate validity: It has been shown to be associated with several measures of similar constructs, such as the Tampa Scale of Kinesiophobia for Health Care practitioners, the Back Beliefs Questionnaire, and the Health Care Providers' Pain and Impairment Relationship Scale.⁹ Its factors have been shown to be significantly predictive of judgments of the harmfulness of activities on the Photographic Series of Daily Activities.⁸ In addition, scores on each of the PABS-PT sub-scales have been shown to be higher for those physiotherapists whose education and professional profile are more specific to the orientation (e.g., those with a bio-psychosocial background scored higher on the Behavioural Orientation sub-scale).⁷

The Attitudes to Back Pain Scale for musculoskeletal practitioners (ABS-mp), developed by Pincus and colleagues,¹¹ assesses the effect of practitioners' attitudes on clinical practice, training needs, and outcome. It was developed with a UK sample of musculoskeletal physiotherapists, chiropractors, and osteopaths. The self-administered questionnaire contains 19 items in six domains, rated on a seven-point Likert scale (1 = extremely disagree, 7 = extremely agree). The ABS-mp has two sections. The Personal Interaction section consists of four factors: Limitations on Sessions, Psychological, Connection to Health Care System, and Confidence and Concern. The Treatment Orientation section consists of two factors: Re-activation and Biomedical. Scores are interpreted separately for each factor. For example, a high score on the Limitations on Sessions dimension indicates that the practitioner promotes unlimited sessions. Extensive evidence supports the conceptual model and face validity of the ABS-mp.⁹

Assessment and Treatment Recommendations

We used two patient vignettes as a basis for obtaining physiotherapists' judgments on assessment and treatment advice. The vignettes were those used by Bishop and Foster (2005) and were developed according to standardized procedures.¹² The first describes a female patient with LBP at moderate risk of developing disability because of the presence of psychosocial risk factors; the second describes a female patient with LBP at low or no risk of progressing to disability. Physiotherapists were asked to rate on a 10-point scale the patient's spinal pathology (0 = very mild, 10 = very severe) and her risk of developing LBP-related disability (0 = very low, 10 = very high). They were also asked to rate their level of agreement with the statements "I would recommend to this patient that she return to work as normal" and "I would recommend to this patient that she return to usual activities" on a scale ranging from 0 to 10 (0 = completely disagree, 10 = completely agree).

Data Analysis

We carried out data analysis with SPSS 17.0 (SPSS Inc., Chicago, IL). We calculated descriptive statistics

(mean, minimum and maximum, and standard deviations) for demographic, educational, and work characteristics as well as for therapists' attitudes and beliefs. The associations between therapists' attitudes and beliefs and their treatment recommendations were explored using correlational analyses and stepwise multiple linear regression analyses. We calculated regression analyses separately for each patient vignette and for each of two dependent variables (assessment of spinal pathology and recommendation of return to activities). The independent variables were the scores on the PABS-PT (BM and BH) and the ABS-mp (Biomedical and Re-activation factors as indicators of treatment orientation; Psychological, Confidence and Concern, Limitation on Sessions, and Connection to the Health Service factors as indicators of personal interaction).

Sample Size

The sample size was estimated at 100 using GPower 3.1.2 (downloaded from <http://www.psych.uni-duesseldorf.de/aap/projects/gpower/>) for multiple regression analysis, using a power of 0.8, an α error probability of 0.05, and an estimated conservative R^2 of 0.15.

RESULTS

Sample

We randomly selected and contacted 232 physiotherapists to invite their participation in the survey. Of these, 63 (27%) were not eligible, and 24 (10%) could not be reached by telephone. Of the 145 eligible physiotherapists, 108 participated (74%). The remaining 37 (26%) who did not participate either refused initially ($n = 22$) or agreed to participate but did not complete the survey ($n = 15$). Compared with the 108 responders, the 37 non-responders were more likely to be female and to work in private practice. The response rate of 74% suggests that, compared with other studies using postal surveys,^{8,12,13} this method was a more effective way of collecting data.

Characteristics of the participants are shown in Table 1. Most respondents were female (68%), held a bachelor's degree in physiotherapy (94%), and worked in private practice (65%). Most respondents (80%, 90) had trained in Quebec at the University of Montreal (40%, 36), McGill University (25%, 28), or Laval University (20%, 22); fewer than 2% of respondents were foreign trained (note that not all respondents answered this question). The youngest respondent was age 23, and the oldest was age 59; 79% had training in manual therapy, 34% had McKenzie training, and 25% had completed a course on chronic pain. Only 12% of physiotherapists were aware of CPGs for LBP.

Attitudes toward and Beliefs about LBP According to Practice Site

In general, physiotherapists in private practice had a stronger biomedical orientation than those working in a

Table 1 Characteristics of Physiotherapists ($n = 108$)

Characteristics	No. and (%) of physiotherapists*
Sex	
Male	35 (32)
Female	73 (68)
Age, y	
23–30	34 (31)
31–40	37 (35)
41–59	37 (35)
Clinical experience, y	
0–5	30 (28)
6–10	21 (19)
11–15	19 (18)
>5	38 (36)
Practice setting	
Private	71 (65)
Public	32 (30)
Both	5 (5)
Post-graduate training	
Manual therapy	85 (79)
McKenzie	36 (34)
Chronic pain course	27 (25)
Able to identify clinical practice guidelines for low back pain	13 (12)

*Percentages are rounded and therefore may not add to 100.

public facility, as measured by the PABS-PT BM sub-scale. Mean scores on the PABS-PT BM sub-scale were 32.0 (SD 6.2) and 29.2 (SD 7.3; $p < 0.05$), respectively, for physiotherapists working in private and public practice. Physiotherapists working in private practice were also significantly more likely to support unlimited treatment sessions and to feel connected to the health care system, as measured by the ABS-mp (Personal Interaction section and sub-scales) (see Table 2).

Vignette Responses

Average scores for physiotherapists' ratings of spinal pathology and risk of LBP-related disability, as well as work and activity recommendations, are summarized in Table 3. In terms of assessment, it was interesting to note that the patient at low risk of disability (i.e., with no psychosocial risk factors) was judged to have a significantly higher level of spinal pathology (5.5 of 10) than the patient at moderate risk of disability (4.3 of 10). However, we found no differences between patients in how they were rated by physiotherapists for risk of disability or advice to return to work or activities. Although both

Table 2 Questionnaire Scores across Practice Sites

Scales	Mean score and (SD)	
	Private practice; <i>n</i> = 71	Public practice; <i>n</i> = 32
PABS		
BM	32.0 (6.2)	29.2 (7.3)*
BH	31.7 (4.8)	32.9 (5.1)
ABS-mp		
LS	15.6 (3.1)	13.8 (3.4)†
PS	19.1 (4.7)	18.4 (5.2)
CHS	12.9 (2.9)	11.3 (2.8)†
CC	7.5 (1.3)	7.4 (1.4)
RA	14.6 (2.9)	14.4 (3.0)
BM	15.4 (2.7)	14.3 (3.9)

* $p \leq 0.05$.† $p \leq 0.01$.

Note: PABS-PT = Pain Attitudes and Beliefs Scale for Physiotherapists; BM = Biomedical Orientation sub-scale (min-max = 10–60, where 60 = strong biomedical orientation); BH = Behavioural Orientation sub-scale (min-max = 9–54, where 54 = strong biopsychosocial orientation); ABS-mp = Attitudes to Back Pain Scale for musculoskeletal practitioners; LS = Limitations on Sessions sub-scale (min-max = 4–28, where 28 = support unlimited sessions); PS = Psychological sub-scale (min-max = 4–28, where 28 = support psychological approaches); CHS = Connection to Health Care System sub-scale (min-max = 3–21, where 21 = feel connected); CC = Confidence and Concern sub-scale (min-max = 2–14, where 14 = confident); RA = Reactivation sub-scale (min-max = 3–21, where 21 = support re-activation); BM = Biomedical sub-scale (min-max = 4–28, where 28 = support biomedical approach).

cases presented with non-specific LBP and neither had signs or symptoms that suggested serious spinal pathology, physiotherapists did not generally agree with advice to “return to work as normal” or “return to usual activities”: The levels of agreement with these statements across both patient vignettes were all lower than five of 10.

Association between Attitudes and Beliefs Scores and Scores Related to Patient Vignettes

Scores on the BM sub-scale of the PABS-PT were positively correlated with judgments of spinal pathology in both patient vignettes, which indicates that the more biomedically oriented a physiotherapist was, the more likely he or she was to rate the severity of spinal pathology higher (see Table 4).

Scores on the PABS-PT BM and PABS-PT BH were correlated, negatively and positively, respectively, with work and treatment recommendations, suggesting that physiotherapists with a stronger biomedical approach were also more likely to recommend delaying full return to work and activities.

None of the ABS-mp sub-scales, except for the ABS-mp Biomedical sub-scale, were correlated with scores of spinal pathology, risk of LBP-related disability, or return to work and activity recommendations.

Table 3 Scores of Assessment and Treatment Recommendations for Patients at Moderate and Low Risk of Disability

	Mean score and (SD)	
	Patient 1 vignette (moderate risk); <i>n</i> = 100	Patient 2 vignette (low risk); <i>n</i> = 100
Spinal pathology		
Spinal pathology*	4.3 (1.5)	5.5 (1.6)†
Risk of low back pain related disability‡	3.6 (2.1)	3.9 (2.1)
Return to work§	2.9 (2.7)	3.4 (2.7)
Return to activities¶	3.8 (3.0)	4.3 (2.9)

*Participants rated the patient's level of spinal pathology (0 = very mild; 10 = very severe).

† $p < 0.001$.

‡Participants rated the patient's risk of developing LBP related disability (0 = very low; 10 = very high).

§Participants rated the following statement on a scale ranging from 0 to 10 (0 = completely disagree to 10 = completely agree): “I would recommend to this patient that she return to work as normal.”

¶Participants rated the following statement on a scale ranging from 0 to 10 (0 = completely disagree to 10 = completely agree): “I would recommend to this patient that she return to usual activities.”

The ABS-mp Biomedical sub-scale was significantly associated with return to activity recommendations for both vignettes, which suggests that a physiotherapist with a stronger biomedical orientation would tend to disagree more with returning both patients to normal activities.

In the stepwise regression analysis to predict judgments of spinal pathology, only PABS-PT BM scores reached significance; these scores accounted for 6% ($p < 0.01$) and 7% ($p < 0.01$), respectively, of the variance for the patients at moderate and low risk of disability. No other score on the PABS-PT or ABS-mp met the tolerance values for inclusion in the model (see Table 5). Stepwise linear regression modeling showed that several factors predicted the recommendation to return to activities and that these factors were different for each of the patient vignettes (see Table 6). For the patient at moderate risk of disability, PABS-PT BH accounted for 12% of the variance ($p < 0.0001$); ABS-mp Biomedical and ABS-mp Confidence and Concern each explained a further 6% of the variance. For the patient at low risk of disability, ABS-mp Biomedical accounted for 12% of the variance. Five factors were entered into a model that accounted for 30% of the variance: ABS-mp Biomedical, ABS-mp Re-activation, ABS-mp Psychological, PABS-PT BM, and ABS-mp Confidence and Concern.

DISCUSSION

LBP and LBP-related disability remain a prevalent and costly problem, accounting for millions of dollars in health care costs and lost productivity per year.¹ In an attempt to understand more about physiotherapists'

Table 4 Pearson's Correlation Coefficients for Attitudes and Beliefs and Assessment and Treatment Recommendations for Patients at Moderate and Low Risk of Disability

Beliefs sub-scales	Patient 1 vignette: moderate risk of disability; <i>n</i> = 102				Patient 2 vignette: low risk of disability; <i>n</i> = 100			
	Spinal pathology	Risk of disability	Return to work	Return to activities	Spinal pathology	Risk of disability	Return to work	Return to activities
PABS-PT: BM	0.24*	0.09	0.27†	0.28†	0.27†	0.22*	0.24*	0.25*
ABS-mp: BM	0.11	0.10	0.16	0.33†	0.13	0.15	0.29†	0.36†
PABS-PT: BH	0.17	0.10	0.40†	0.35†	0.16	0.15	0.26†	0.26*

**p* < 0.05.†*p* < 0.01.

PABS-PT BM = Pain Attitudes and Beliefs Scale for Physiotherapists, Biomedical Orientation sub-scale; ABS-mp: BM = Attitudes to Back Pain Scale for musculoskeletal practitioners, Biomedical orientation; PABS-PT: BH = Pain Attitudes and Beliefs Scale for Physiotherapists, Behavioural Orientation sub-scale.

Table 5 Stepwise Linear Regression Analyses: Predictors of Judgements of Spinal Pathology

Model and predictors	Group			
	Patient 1: moderate risk of disability		Patient 2: low risk of disability	
	(Constant)	PABS-PT BM	(Constant)	PABS-PT BM
<i>R</i>	—	0.24	—	0.27
<i>R</i> ²	—	0.06	—	0.07
ΔR^2	—	0.06	—	0.07
ΔF	—	6.19	—	7.48
B (95% CI)	2.60 (1.21–3.99)	0.07 (0.011–0.099)	3.44 (1.92–4.95)	0.07 (0.02–11)
β	—	0.24	—	0.27
<i>p</i> -value	0.00	0.01	0.00	0.01

PABS-PT BM = Pain Attitudes and Beliefs Scale for Physiotherapists, Biomedical Orientation sub-scale.

role in the problem of chronic LBP and disability, we conducted a first study of Quebec physiotherapists' knowledge, attitudes, and beliefs about LBP and its management. Our aim was to identify not only whether physiotherapists are using CPGs to inform their practice but also whether the orientation of their understandings and attitudes may influence their assessments, treatment recommendations, and advice.

Awareness of CPGs

CPGs are published by different scientific societies, expert panels, and professional groups to evaluate published research and recommend best-evidence-based clinical management. They aim to improve standards of care and clinical effectiveness for typical patients with a common condition, such as LBP. Several CPGs exist for LBP, and although the recommendations have changed little, the evidence supporting the guidelines has strengthened. In recent years, the application of rigorous methodology such as that used by the Cochrane Collaboration has helped to minimize bias by using a

systematic approach to literature search, study selection, data extraction, and data synthesis. More recently, cost-effectiveness has also been a consideration both in clinical trials and in CPGs.

Only 12% of physiotherapists in our study were aware of CPGs, a finding that is in line with those of Mikhail and colleagues.¹⁴ Therefore, CPGs appear to neither inform nor affect current clinical practice in Quebec. This situation appears to be widespread and common to other health care professionals; unfortunately, studies have found that many guidelines are not used after their development and dissemination,^{15–17} despite the fact that adherent care has been shown to produce better clinical outcomes and lower costs.^{18,19}

Research on implementation strategies to improve adherence to guidelines has shown the value of education, discussion, role-playing, feedback, and reminders.^{20,21} However, these implementation strategies frequently produce only moderate improvement.¹⁵ Furthermore, even moderate improvement is evident only if the guidelines

Table 6 Stepwise Linear Regression Analyses: Predictors of Advice to Return to Activities

Model and predictors	<i>R</i>	<i>R</i> ²	ΔR^2	ΔF	B	β	<i>p</i>	95% CI for B
Patient 1: moderate risk of disability								
(Constant)					−3.14		0.11	−7.00 to 0.71
PABS–PT BM	0.34	0.12	0.12	13.24	0.22	0.34	0.00	0.10 to 0.34
(Constant)					2.14		0.43	−3.19 to 7.48
PABS–PT BH	0.42	0.18	0.06	7.59	0.17	0.27	0.01	0.05 to 0.29
ABS–mp BM					−0.25	−0.26	0.01	−0.44 to −0.07
(Constant)					−0.41	0.23	0.88	−5.85 to 5.03
PABS–PT BH	0.49	0.24	0.06	8.28	0.14	−0.35	0.02	0.03 to 0.26
ABS–mp BM					−0.34		0.00	−0.53 to −0.15
ABS–mp CC					0.64	0.27	0.01	0.20 to 1.08
Patient 2: low risk of disability								
(Constant)					9.27		0.00	6.56 to −11.99
ABS–mp BM	0.35	0.13	0.13	14.00	−0.33	−0.35	0.00	−0.512 to −0.157
(Constant)					6.71		0.00	3.41 to 9.98
ABS–mp BM	0.43	0.18	0.06	6.91	−0.40	−0.42	0.00	−0.58 to −0.22
ABS–mp RA					0.25	0.25	0.01	0.06 to 0.43
(Constant)					7.65		0.00	4.34 to 10.96
ABS–mp BM	0.47	0.22	0.04	5.12	−0.38	−0.40	0.00	−0.55 to −0.20
ABS–mp RA					0.33	0.33	0.00	0.13 to 0.52
ABS–mp PS					−0.13	−0.22	0.03	−0.25 to −0.02
(Constant)					11.18		0.00	6.95 to 15.41
ABS–mp BM	0.52	0.27	0.05	6.53	−0.34	−0.35	0.00	−0.51 to −0.16
ABS–mp RA					0.31	0.31	0.00	0.17 to 0.50
ABS–mp PS					−0.17	−0.28	0.01	−0.28 to −0.05
PABS–PT BM					−0.10	−0.24	0.012	−0.18 to −0.02
(Constant)					9.26		0.00	6.69 to 13.83
ABS–mp BM	0.55	0.31	0.03	4.11	−0.37	−0.39	0.00	−0.54 to −0.19
ABS–mp RA					0.26	0.27	0.009	0.07 to 0.45
ABS–mp PS					−0.19	−0.33	0.00	−0.31 to −0.08
PABS–PT BM					−0.10	−0.22	0.02	−0.18 to −0.20
ABS–mp CC					0.46	0.20	0.05	0.01 to 0.90

PABS–PT = Pain Attitudes and Beliefs Scale for Physiotherapists; BM = Biomedical Orientation sub-scale; BH = Behavioural Orientation sub-scale; ABS–mp = Attitudes to Back Pain Scale for musculoskeletal practitioners; PS = Psychological sub-scale; CC = Confidence and Concern sub-scale; RA = Reactivation sub-scale.

do not deviate too much from current clinical practice. This fact speaks to the inherent difficulty of changing attitudes, beliefs, and clinical practice. The problem is accentuated when professional education programmes retain and teach outdated beliefs and treatment behaviours.

Another noteworthy barrier to guideline adherence is patients' treatment expectations. Patients' expectations influence the health care provided to them, which can be a barrier to guideline adherence when the expectations are at variance with best-evidence CPGs.^{22–24} Within the therapeutic encounter, the patient's specific demands and expectations affect the physiotherapist's choice of

treatment interventions. Meeting and satisfying patients' demands and expectations of care have been cited by health care practitioners as a primary reason for choosing one approach over another.^{25–27} Physiotherapists have stated that patients expect and prefer passive interventions over exercise therapy and education,²¹ and some have admitted to using electrotherapeutic modalities simply because they helped patients believe that something was being done.²⁷ Clearly, patient education about best evidence must be part of the process of implementing effective, best-evidence health care. This education is all the more important because self-management is a key component of the intervention. Indeed, a recent

CPG on LBP diagnosis and management includes a lay summary for patients.⁵ Communication, including mass communication of best-evidence health care to influence health literacy, is clearly indicated.

In our sample of physiotherapists, lack of awareness of CPGs was clearly a significant and fundamental initial barrier. Whether CPGs are part of the curricula in either entry-level or continuing education is not clear, but the results of our study suggest that curricula do not currently address CPGs. CPGs are based on best evidence; our study's results thus clearly call into question whether professional schools of physical therapy have sufficiently integrated the teaching of best-evidence practice into their curricula and whether they have sufficiently fostered the development of lifelong learners.

Although physiotherapists' lack of awareness of CPGs is a concern, of much greater concern is the fact that our participants' assessments and treatment recommendations (specifically, rest and avoidance of activity) were not in line with best evidence, as illustrated by their responses to the patient vignettes. At best, these treatment recommendations may have no negative effect on outcome; at worst, however, our results suggest that physiotherapists are contributing to the problem of LBP-related disability.

Vignette Responses

For both Patients 1 and 2, scores for risk of developing LBP-related disability were very similar; no distinction was made between the patients. Bishop and Foster,¹² using the same vignettes, reported similar findings. In fact, Patient 1 is at a moderate risk of developing chronicity and has more psychosocial risk factors than Patient 2, who is at low risk. The design of the vignettes may be to blame for difficulties in categorization; however, we must note that physiotherapists did not give more importance to the psychosocial risk factors of Patient 1 (i.e., patient is concerned and anxious about her episode of back pain; her job involves bending and lifting) when determining her risk of LBP-related disability, even though, according to the guidelines,² these factors are stronger predictors of disability than biomedical or biomechanical factors.

Participating physiotherapists were asked to rate their level of agreement with the recommendation for full return to work and activities of both patients. The mean scores show a general disagreement with these recommendations, which suggests that many participants were not in line with recent evidence-based recommendations advising physiotherapists to encourage patients to return to normal activities and return to work as early as possible. Several other studies have reported similar findings.^{12–14,28} These results are not surprising, given physiotherapists' lack of knowledge of best evidence regarding the management of LBP.

PABS-PT BM was positively correlated with spinal

pathology ratings for both patients, but this was not the case for PABS-PT BH. Further exploration of the causal pathways of development of LBP-related disability in patients may be noteworthy. It is possible that biomedically oriented physiotherapists may see a greater degree of pathology in their patients with LBP and then convey this belief to the patients themselves, which may lead to restriction of re-activation and even anxiety.

Attitudes toward and Beliefs about LBP

The results of this study support other findings^{12,13,29} indicating that physiotherapists and other health care professionals may have unhelpful attitudes and beliefs that influence their treatment recommendations. Bishop and colleagues¹³ reported that physiotherapists' high biomedical attitude scores were associated with recommendations to remain off work; similarly, Houben and colleagues²⁹ found that physiotherapy students' high biomedical attitude scores were related to a pain-contingent treatment approach whereby exercise dose is determined by symptoms rather than by time. The important and worrisome message that these studies convey is that physiotherapists' biomedically oriented attitudes and beliefs may be an influential factor in the development of patients' chronic spinal disability, reinforcing patients' unfavourable impressions of their LBP as an illness that must limit daily activities and work.

We found an association between attitudes and beliefs and assessment and treatment recommendations for the PABS-PT BM, PABS-PT BH, and ABS-mp Biomedical but not for the other ABS-mp sub-scales. The ABS-mp has a strong conceptual framework that is broader than that of the PABS-PT, and this measure clearly taps into practitioners' attitudes about the health care system as well as their attitudes about LBP and patients with LBP. For example, the ABS-mp Connection to Health Care System sub-scale does not fit narrowly within the construct of attitudes toward and beliefs about LBP.

Our results also show general support for unlimited treatment sessions, especially by physiotherapists in private practice. These treatment recommendations, again, are not in line with best-evidence CPGs, which recommend reassurance, self-management advice, and advice to maintain activity and work or resume them early on.

Education of all stakeholders is essential to facilitating the transition from a biomedical to a bio-psychosocial understanding of LBP. Incomplete knowledge is one of the main reasons that biomedical attitudes and beliefs persist and that recommendations echo the medical advice, based on a rest for recovery model, that was given for decades. This paradigm shift may take more time than expected to gain acceptance in the physiotherapy community and to become part of everyday teaching and clinical practice. As noted earlier, whether best evidence is currently taught in professional education programs is not clear. If it is currently a component

of professional education, this would suggest that knowledge of CPGs and potential adherence to best-evidence practice will improve in the future, in which case LBP may become associated with less distress, disability, and dependence on the health care system and would be largely self-managed by individuals who maintain their activity levels and continue to work despite the experience of LBP.

LIMITATIONS

Because of the high proportion of French-speaking physiotherapists in the Province of Quebec, the questionnaires on practice style and attitudes and beliefs were translated into French, using standard translation methods. The two clinical vignettes of patients with LBP used in this study have been shown to have acceptable validity.^{30,31} In addition, the vignettes, which were originally used in a previous study,¹² were based on actual patients with LBP and were tested by a panel of UK experts. Subtle differences between the two vignettes may possibly have been lost in translation.

We measured clinical behaviour via assessment scores and work and activity recommendations. It is unclear whether these scores correspond to physiotherapists' actual clinical practice: Direct observation of clinical behaviour remains a challenge for the future.

Finally, the outcome measures of our study were self-reports; therefore, responses may have been biased by social desirability.

CONCLUSION

LBP persists as a prevalent problem associated with disability and dependence on the health care system, and physiotherapists play a major role in its management. Over the past two decades, research has shown that best-evidence practice is based on identifying individuals at risk of disability, facilitating self-management, and increasing or maintaining activity. CPGs aim to improve standards of care and clinical effectiveness in a cost-effective manner. Our results suggest that physiotherapists' advice and treatment recommendations are not in line with contemporary best evidence, and it is plausible to consider that tradition-based practice may be contributing to the problem of LBP disability, dependence on the health care system, and lost income and productivity. Research to better understand and facilitate the implementation of best-evidence professional education and clinical practice is an urgent priority.

KEY MESSAGES

What Is Already Known on This Subject

LBP persists as a prevalent problem associated with disability and dependence on the health care system; physiotherapists play a major role in the management of LBP. Best-evidence CPGs for LBP, which aim to improve standards of care and clinical effectiveness in a

cost-effective manner, recommend identifying individuals at risk of disability, facilitating self-management, and increasing or maintaining activity.

What This Study Adds

Physiotherapists in Quebec lack an awareness of CPGs, and their treatment advice and recommendations are not in line with best evidence. Research to better understand and facilitate the implementation of best-evidence professional education and clinical practice is an urgent priority.

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