“When will I recover?” A national survey on patients’ and physicians’ expectations concerning the recovery time for acute back pain

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Abstract The objective of this study was to compare patients’ and physicians’ expectations concerning the recovery time for acute back pain, and their determinants. A French national observational survey was performed between October and December 2005. Each physician was asked to include the first three patients aged between 20 and 70 years presenting with acute back pain (VAS > 40 mm) of less than 1 month’s duration. A total number of 1982 patients, with a mean age of 48.4 ± 11.8 years (52.2% men), were enrolled by 834 physicians. Patients and their physicians expected recovery to take the same amount of time in 60.3% of cases (Kappa = 0.43). In 17.4% of cases, patients predicted a shorter recovery time than physicians, and in 22.4% of cases, patients predicted a longer recovery time. Both patients and physicians expected recovery time to be longer in women, and in older, unmarried, obese, and non working patients. Expected recovery time was also longer in patients with no sports activities, low back pain (as opposed to pain at other

sites), a high level of disability, a history of back pain, and no triggering factor. The intensity of pain and the number of days of sick leave taken did not affect the patient’s prediction of recovery time, but did affect the physicians’ expectations. Physicians considered professional status, analgesic intake and previous sick leave to be independent predictive factors, whereas patients did not. Expected recovery time, assessed shortly after the onset of acute back pain is influenced by most of the clinical and demographic factors usually considered risk factors for chronic low back pain. Patients’ predictions of recovery time should be assessed in acute back pain, to identify risks for expected chronicity.

Keywords Low back pain · Expectations · Patients · Recovery · Physicians

Introduction

Clinicians have long been aware of the influence of the patient’s expectations, particularly as regards outcome, on the success of management [8]. Most would probably agree that what patients think will happen (their recovery expectations) may affect what actually happens (their health outcomes). Acute low back pain (LBP) is a common condition for which early intervention, particularly in individuals who are working, is required to prevent chronicity [28]. Most LBP episodes tend to improve during the first month following an initial consultation with a general practitioner [34]. The prognosis for acute LBP is favorable in most cases, but 10% of patients experience prolonged pain and disability, and these cases account for 90% of workers’ compensation costs related to LBP [15]. This has focused the attention of employers and healthcare

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providers on the factors associated with prolonged sick leave and identification of the patients most at risk of chronic LBP [6]. Many variables have already been studied in patients with acute LBP, with the aim of identifying factors associated with chronic illness and the duration of sick leave [31]. However, very few studies have focused on patients' and physicians' expectations in acute back pain [10, 27]. Patients are often asked about their expectations concerning analgesic treatment response, without the recording of expected recovery time, which may nonetheless provide a useful indication of the expectations of both patients and physicians. Thus, an analysis of the determinants of expected recovery time may provide important information, both for patients, who want to know when they will recover normal functioning and/or be able to return to work, and for physicians, who need to predict possible treatment duration, and in some cases, the probable duration of sick leave. In our analysis of data from a national survey of patients with acute back pain and their physicians, we investigated the agreement between the patients' and physicians' initial expected recovery times and the factors associated with poor expectations, for both patients and physicians.

Patients and methods

Design

We carried out a cross-sectional survey of a national sample of general practitioners (GPs), rheumatologists (Rhs), and their patients.

Recruitment of GPs and rheumatologists

One thousand GPs and Rhs were selected to participate in this national, observational multicenter study. Each was asked to recruit up to three patients, to give a total of 2,000 enrolled patients. The GPs and Rhs asked to participate in this survey on back pain were selected at random from a French national database, using computerized allocation with geographic stratification.

Recruitment of patients

From October 2005 to December 2005, each GP and Rh was asked to recruit the first three patients they saw (a) aged between 20 and 70, (b) seeking medical assistance for recent (duration of less than one month at the time of consultation) back pain (cervical, thoracic, lumbar), (c) with a minimal level of pain intensity of 40 mm on a visual analog scale (VAS), and (d) able to write and read in French. An episode of back pain was defined as the episode

of pain in the area shown in the diagram leading patients to consult physicians, consistent with the recent international consensus definition [7] applied to the cervical, thoracic, and low back levels. Patients were excluded if they (a) had another painful condition considered more intense than "slight", (b) had chronic low back pain (c) had other disabling comorbidities that might significantly affect daily life activities; (d) declined participation.

Ethical approval

French bioethics legislation does not require consent from the Hospital Ethics Committee for this type of survey. Approval was obtained from the Commission Nationale Informatique et Libertés (CNIL), as required for all studies involving the management of computerized data. The survey was conducted in compliance with the protocol, good clinical practice, and the principles of the Helsinki Declaration. Consistent with French national law, GPs, Rhs and patients gave written consent for participation after being informed of the survey protocol.

Demographic data for the physicians

Demographic data were recorded for the physicians: age, sex, specialty, place of activity (hospital-based, private practice, mixed), and estimated average number of patients per week with back pain in routine practice. Physicians were asked to predict recovery time for their patients at the end of the visit, blind to the patients' assessment, and to classify it as: less than 5 days, from 5 to 10 days, from 10 to 30 days, from 30 days to 3 months, more than 3 months.

Demographic and clinical data for the patients

The following data were recorded for the patients: age, sex, weight, height and body mass index (BMI), marital status, professional status, and sport activities. General sports activities were considered, with patients asked about their routine activities: patients were asked whether they currently exercised at least once per week and were asked to respond "Yes" or "No".

Clinical data were also recorded: site of back pain, triggering factor, history of back pain, number of work days lost to sickness in the last 12 months, duration of pain since the onset of the episode, and analgesic treatment.

All patients were asked to complete several questionnaires. They were asked to rate their pain and participation restriction on a 100 mm VAS with two limits: for pain—with no pain on the left and worst imaginable pain on the right—and for participation restriction—with no participation restriction on the left and extremely severe participation restriction on the right.

Patients identified by the physician as eligible for inclusion were asked to estimate their expected recovery time for the current back pain episode, blind to the physician's estimate, after the consultation. Patients gave their estimate on the questionnaire, which they then returned to the physician in an envelope, so that the physician was also blind to their estimates.

Patients were asked to estimate their expected recovery time according to the same five categories used by physicians: less than 5 days, from 5 to 10 days, from 10 to 30 days, from 30 days to 3 months, and more than 3 months. Patients estimating their recovery time at more than 3 months were considered to be at risk of chronicity.

Statistical analysis

Data were analyzed with SAS 8.2 software (SAS Institute Inc, Cary, NC, USA). Quantitative variables are expressed as means $\pm$ standard deviations (SD). Qualitative variables are expressed as raw data and percentages. In univariate analysis, means were compared using the Wilcoxon test [or analysis of covariance (ANCOVA), as appropriate] and percentages were compared in Chi-squared tests. A *p* value less than 0.05 was considered statistically significant. Logistic regression analysis was carried out to identify factors that might independently influence expected recovery time, selected from univariate analysis. The included patients were aged between 20 and 70 years. We arbitrarily classified age into three categories: 20–40, 40–55, and 55–70 years. Pain intensity and disability levels, both continuous variables, were classified into four categories on the VAS: 0–2.5, 2.5–5, 5–7.5, and 7.5–10 mm (Tables 4, 5).

A stepwise selection procedure was used to identify the independently associated variables (with levels for inclusion in and exclusion from the model of *P* < 0.10 and 0.15, respectively). For patients and physicians estimating the patients' recovery time at longer than 3 months (i.e., risk of chronicity), polytomous regression analysis was carried out to investigate the reasons for predictions of a long recovery time by the patients and physicians. In this analysis, the number of recovery time categories was reduced from five to four, to balance the number of values in each category: less than 5 days, from 5 to 10 days, from 10 to 90 days, and 90 days and over.

Results

We selected 879 GPs and rheumatologists at random and asked them to participate in the study: 834 enrolled at least one patient and completed the questionnaire.

Table 1 Demographic characteristics of the patients (*N* = 1,982)

Age	Mean: 48 $\pm$ 11 years
Sex (%)	Men 1,029 (52.2); Women 941 (47.8)
Site of pain	
Cervical	313 (15.8%)
Lumbar	1,383 (69.8%)
Dorsal	177 (8.9%)
Two or more regions involved	109 (5.5%)
BMI	Total 25.1 $\pm$ 3.9
	Normal 1012 (52.4%)
	Overweight (BMI > 25 kg/m ²) 709 (36.7%)
	Obese (BMI > 30 kg/m ²) 208 (10.8%)
Number of previous episodes	0: 425 (21.4%)
	1: 211 (10.6%)
	2–4: 972 (50.4%)
	5 or more: 322 (16.7%)
Work days missed during the last 12 months	0: 959 (58.6%), 1–15: 489 (29.9%), >15: 189 (11.5%)
Marital status	Single 259 (13.9%)
	Married or living with partner 1,349 (72.2%)
	Widowed 118 (6.3%)
	Divorced 142 (7.6%)
Professional activity	Self-employed 56 (4.0%)
	Employee 254 (18.3%)
	Employee 254 (18.3%)
	Active: other categories 730 (52.7%)
	Retired 344 (24.9%)
Pain intensity	62.7 $\pm$ 12.24 (40–100 mm)
Sports activities	No 1254 (73.8%); Yes 445 (26.2%)
Disability level	60.0 $\pm$ 17.4 (0–100 mm)
Number of previous episodes	2.6 $\pm$ 2.7 (range 0–18)
Triggering factor	Yes: 942 (53.8%)
	No: 810 (46.2%)
Analgesic use before consultation	Yes: 1371 (69.3%)
	No: 607 (30.7%)

Demographic and clinical data for the patients

In total, 1982 patients (52.2% men, 48 $\pm$ 11 years, BMI 25.1 $\pm$ 3.9 kg/m²) were selected by GPs and RhS (Table 1). Physicians reported a refusal to complete questionnaires for 70 patients, most of whom had difficulties reading or writing. The 1982 patients studied had cervical (15.6%), thoracic (8.9%) or lumbar (69.8%) pain, or pain in two or more regions (5.7%). Overall pain was intense, scoring a mean of 62.7 $\pm$ 1 on a 100 mm VAS. The mean level of participation restriction was also high (60.0 $\pm$ 17.4 mm), and 69.3% of the patients had already

started taking analgesics (self-medication) before consulting the doctor. Most of the patients had a lifetime history of back pain, most having two to four previous episodes. Most of the patients were married (72.2%), actively working (75.2%), not currently practicing sports (73.8%), and 58.6% had not availed sick leave in the past 12 months.

Characteristics of the physicians

In total, 834 physicians participated in this study. They had a mean age of 48 ± 7 years, 81% were men, 82.4% were GPs and 17.6% Rhs, mostly in private practice (72.6%), taking care of a mean of 19.1 ± 18.3 patients with back pain per week. The average age of this sample is similar to that for the total population of GPs in France, but the proportion of male GPs is higher, suggesting that more male than female GPs may be involved in the treatment of back pain.

Patients' and physicians' expected recovery times

The patients' and physicians' expected recovery times are shown for the whole group in Fig. 1 and for patients with sickness leave in Fig. 2.

We found that 26.4% of the patients expected to recover within 5 days, 43.8% expected to recover in 5–10 days, 19.0% expected to recover within 10–30 days, 3.4% expected to recover within 3 months, and 7.3% believed that they would suffer from long-term pain. Physicians expected recovery to occur in less than 5 days in 23.1% of patients, within 5–10 days in 53.1% of patients, within 10–30 days in 17.0% of patients, within 1–3 months in 1.9% of patients, and they expected the back pain to become chronic in 4.9% of patients. The pattern was similar for the expected time to return to work in the subgroup of patients on sick leave (Fig. 2).

Fig. 1 Comparative analysis of time to recovery for patients and physicians. We found that 26.4% of the patients expected to recover within 5 days, 43.8% expected to recover within 5–10 days, 19.0% expected to recover within 10–30 days, 3.4% expected to recover within 1 month 7.3% believed that their pain would become chronic.

Physicians expected recovery to occur in less than 5 days in 23.1% of patients, within 5–10 days in 53.1% of patients, within 10–30 days in 17.0% of patients, within 1–3 months in 1.9% of patients and they expected the pain to become chronic in 4.9% of patients

Fig. 2 For patients on sick leave: time to return to work

Do certain demographic and clinical characteristics significantly affect patients' and physicians' expected recovery times?

We specifically assessed the influence of each demographic and clinical characteristic on expected recovery time, separately for patients and physicians. For both patients and physicians, expected recovery times differed significantly as a function of sex (women longer than men), age (older longer than younger), BMI (obese longer than normal weight), professional status (retired longer than actively working), sports activities (no sport longer than if currently practicing sport), history of back pain (patients with previous LBP episode expected recovery time to be longer than those with no previous episode), duration of pain (longer duration of pain episode being associated with longer expected recovery time), site of pain (low back pain associated with longer expected recovery time than thoracic and cervical pain), participation restriction level (recovery time longer for higher degrees of participation restriction) and the presence or absence of a triggering factor (expected recovery time being longer in the absence of a triggering factor).

For physicians, the number of days of sick leave and higher pain intensity were associated with longer expected recovery times, whereas these factors had no influence on patients' expected recovery time. In conclusion, most clinical and demographic factors influenced expected recovery time in the same way for both patients and physicians, with the exception of the number of days of sick leave and pain intensity.

Do patients' and physicians' expected recovery times differ?

Differences between patients and physicians in terms of expected recovery time were analyzed (Table 2). Patients and physicians predicted identical recovery times in 60.3% cases. In 17.4% of cases, the patients expected to recover more quickly than predicted by the physician, whereas in 22.4% of cases, the patient's prediction was longer. The Kappa value indicating the degree of agreement between patients' and physicians' ratings was 0.43. Table 2 compares the characteristics of patients expecting a longer recovery time than predicted by the physician with those expecting a shorter recovery time; only "previous episodes of back pain" and "number of work days missed during the last 12 months" differed significantly between the groups.

Why do patients expect to have a shorter recovery time than predicted by physicians?

Logistic regression analysis demonstrated that familial and professional status were the only two independent variables

found to be significantly predictive of the expectation of a shorter recovery time by patients (Table 2). Thus, married and self-employed patients expected to recover more quickly than predicted by their physicians.

Why do patients expect to have a longer recovery time than predicted by their physicians?

When patients predicted a longer recovery time than physicians, logistic regression analysis demonstrated that pain intensity was the only variable identified as having a significant effect (Table 2). In other words, patients with more intense pain expected to recover significantly more slowly than predicted by their physicians.

Which factors predict chronic disease, for patients and physicians?

Factors predictive of an expected recovery time of more than 3 months (i.e., chronic disease) were investigated in Table 3. The factors generally identified as associated with a risk of chronicity in prospective studies on low back pain were also identified here in acute conditions, in analyses of patients' and physicians' expectations. Sick leave was not associated with an increase in the risk of chronicity for patients.

Which factors independently account for predictions of a long recovery time by patients and physicians?

Polytomic regression analysis was carried out to investigate independent factors associated with the prediction of longer recovery times by patients and physicians (Tables 4, 5). The number of time categories was reduced from five to four, to balance the number of values in each category: less than 5 days, from 5 to 10 days, from 10 to 30 days, 30 days and over. For patients (Table 4), a BMI greater than 30 kg/m², a history of back pain (one or more previous episodes) and the number of work days missed in the last 12 months were independent variables. For physicians (Table 5), a BMI greater than 30 kg/m², a history of back pain (more than 3 episodes), and number of work days missed in the last 12 months were independently associated with an increase in the risk of a longer expected recovery time.

Discussion

The accuracy with which expectations at the time of initial medical evaluation for acute back pain predict recovery has not previously been evaluated. Previous studies reported a range of recovery times of less than 1 month for acute back

Table 2 Differences in expected recovery time between patients and physicians (kappa coefficient correlation = 0.43)

	Characteristics of patients predicting a longer recovery time than their physicians (22.4% of cases)	Characteristics of patients predicting a shorter recovery time than their physicians (17.4% of cases)	<i>P</i>
Site of pain	Cervical = 69 (17.4%) Dorsal = 296 (74.7%) Lumbar = 31 (7.8%)	Cervical = 52 (16.5%) Dorsal = 233 (74.0%) Lumbar = 30 (9.5%)	NS
Pain intensity	Mean = 64.0 SD = 12.3	Mean = 64.0 SD = 12.1	NS
Disability level	Mean = 59.6 SD = 17.2	Mean = 60.2 SD = 18.5	NS
Sex	M = 212 (50.4%) F = 209 (49.6%)	M = 175 (53.8%) F = 150 (46.1%)	NS
Age	20–40 = 99 (23.9%) 40–55 = 173 (41.7%) 55–70 = 143 (34.5%)	20–40 = 77 (24.%) 40–55 = 151 (47.%) 55–70 = 93 (29.0%)	NS
BMI	<25 = 220 (53.9%) 25–30 = 133 (32.6%) >30 = 55 (13.5%)	<25 = 166 (53.0%) 25–30 = 109 (34.8%) >30 = 38 (12.1%)	NS
Professional status	Active = 154 (53.5%) Retired = 75 (26.0%) Salaried = 51 (17.7%) Self-employed = 8 (2.8%)	Active = 130 (54.2%) Retired = 56 (23.3%) Salaried = 50 (20.8%) Self-employed = 4 (1.7%)	NS
Previous episodes	0 = 33 (7.9%) 1 = 69 (16.6%) 2 = 91 (21.9%) 3 = 90 (21.7%) >3 = 132 (31.8%)	0 = 58 (18.3%) 1 = 67 (21.1%) 2 = 83 (26.2%) 3 = 40 (12.6%) >3 = 69 (21.8%)	<i>P</i> < 0.0001
Number of work days missed in the last 12 months	0 = 177 (52.9%) 1–15 = 111 (32.8%) >15 = 50 (14.8%)	0 = 183 (64.9%) 1–15 = 69 (24.5%) >15 = 30 (10.6%)	<i>P</i> < 0.01
Triggering factor	No = 179 (47.9%) Yes = 195 (52.1%)	No = 124 (42.3%) Yes = 169 (57.7%)	NS
Analgesic intake	No = 132 (31.3%) Yes = 289 (68.6%)	No = 94 (28.7%) Yes = 233 (71.2%)	NS

Table 3 Prediction of chronicity (i.e., recovery time exceeding 3 months) by patients and physicians

	Prediction of chronicity by the patient <i>N</i> = 141	Prediction of chronicity by the physician <i>N</i> = 94
Site of the pain	NS	NS
Pain intensity	<0.01	<0.05
Disability level	<0.01	<0.01
Sex	<0.0001	<0.01
Age	<0.01	NS
BMI	<0.0001	<0.0001
Professional status	<0.05	<0.05
Previous episodes	<0.0001	<0.0001
Number of work days missed in the last 12 months	<0.0001	<0.0001
Triggering factor	<0.0001	<0.01
Analgesic intake before consultation	<0.01	<0.001
Sick leave	NS	0.1505

Table 4 Independent determinants of patients' beliefs concerning their expected recovery time

Variable	Category	<i>P</i> value	Odds ratio	Confidence interval	
Age vs. 20–40	40–55	0.2735	0.836	0.606	1.152
	55–70	0.4069	1.190	0.789	1.797
Sex vs. M	F	0.3169	1.144	0.879	1.488
BMI vs. <25	25–30	0.5834	0.928	0.712	1.211
	>30	0.0113	1.698	1.127	2.559
Site of pain vs. dorsal	Cervical	0.3177	1.290	0.783	2.125
	Lumbar	0.0789	1.452	0.958	2.202
Pain intensity vs. first quartile	Second quartile	0.9877	0.997	0.705	1.412
	Third quartile	0.4473	1.149	0.803	1.645
	Fourth quartile	0.5540	1.127	0.758	1.675
Disability level vs. first quartile	Second quartile	0.7008	1.072	0.753	1.524
	Third quartile	0.4311	1.157	0.805	1.661
	Fourth quartile	0.7723	0.942	0.628	1.412
Marital status vs. single	Divorced	0.2295	1.438	0.795	2.602
	Married or living with partner	0.7766	1.056	0.725	1.537
	Widowed	0.5092	1.224	0.672	2.231
Professional status vs. retired	Active	0.6422	1.154	0.630	2.113
	Self-employed	0.3762	1.353	0.692	2.646
	Employed	0.4896	1.254	0.660	2.384
Number of previous episodes vs. 0	1	0.0063	1.746	1.171	2.606
	2	0.0014	1.911	1.284	2.844
	3	<0.0001	3.484	2.263	5.364
	>3	<0.0001	4.463	2.932	6.791
Triggering factor vs. Yes	No	0.1436	1.200	0.940	1.534
Analgesic intake before consultation vs. No	Yes	0.1233	1.229	0.945	1.598
Number of days of sick leave vs. none	1 to 5	0.0043	0.601	0.424	0.852
	6 to 10	0.0351	1.431	1.025	1.998
	11 and more	<0.0001	11.349	6.493	19.835

For patients, a BMI greater than 30 kg/m², a history of at least one episode of back pain and number of work days missed in the last 12 months were independent variables associated with a longer recovery time

pain [34]. We found that 70.2% of the patients expected to recover within 10 days, and 89.2% expected to recover within a month. Expected recovery time is influenced by several demographic and clinical data, but is also determined by fear, pain, beliefs, and expectations [1]. Expected recovery time may influence the patient's and the physician's approaches to pain management very soon after the onset of back pain. During this acute stage, assessments of patients' expectations may be a useful tool for screening and early intervention. Unlike patients, physicians base their estimates of recovery time on training and experience, patient history and physical examination, observations of pain behavior and coping strengths, and an understanding of specific practices and policies of employers [21]. In clinical practice, patients with acute pain frequently ask about recovery time and the duration of pain, but the impact of predicting a recovery time on medical outcome for the patient has not been investigated.

The need to prevent disability has led to recent efforts to develop methods for the identification of those with back pain most likely to become chronically disabled [3, 5]. The prediction of recovery time by the physician provides an indirect prediction of outcome, integrating many variables [9]. Few studies have considered the predictive relationship between patients' expectations for recovery and their health outcomes [23], in cardiac [24] and orthopedic surgery [2]. However, few studies have been conducted on this aspect for back pain: Lutz et al. [21] investigated expectations concerning the outcome of surgery for sciatica, and Toyone et al. [32] focused on expectations relating to lumbar spine surgery. Lutz et al. [21] found that patients' expectations concerning the need for surgery and recovery time were associated with their surgical outcomes. They also found that more patients expecting a shorter recovery time were satisfied with the results of their surgery at 12 months than patients with expectations of a longer

Table 5 Independent determinants of physicians' beliefs concerning expected recovery time

Variable	Category	P value	Odds ratio	Confidence interval	
Age vs. 20–40	40–55	0.4197	0.871	0.623	1.218
	55–70	0.8011	1.057	0.687	1.626
Sex vs. M	F	0.1437	1.229	0.932	1.620
BMI vs. <25	25–30	0.5389	1.092	0.825	1.444
	>30	0.0243	1.637	1.066	2.513
Site of pain vs. dorsal	Cervical	0.7674	1.083	0.640	1.831
	Lumbar	0.1043	1.438	0.928	2.230
Pain intensity vs first quartile	Second quartile	0.8829	0.973	0.677	1.399
	Third quartile	0.9379	0.985	0.677	1.433
	Fourth quartile	0.8202	0.953	0.631	1.440
Disability level vs. first quartile	Second quartile	0.3779	1.181	0.816	1.708
	Third quartile	0.8408	0.962	0.658	1.406
	Fourth quartile	0.9324	0.982	0.645	1.496
Marital status vs. single	Divorced	0.3252	1.364	0.735	2.534
	Married or living with partner	0.1338	1.354	0.911	2.011
	Widowed	0.2690	1.428	0.759	2.684
Professional status vs. retired	Active	0.1037	1.695	0.898	3.199
	Self-employed	0.8517	2.578	1.274	5.216
	Employed	0.0604	1.910	0.972	3.752
Number of previous episodes vs. 0	1	0.6087	1.114	0.738	1.681
	2	0.2364	1.279	0.851	1.921
	3	0.0815	1.482	0.952	2.308
	>3	0.0001	2.290	1.493	3.514
Triggering factor vs. Yes	No	0.9055	1.016	0.786	1.312
Analgesic intake before consultation vs. No	Yes	0.0367	1.341	1.018	1.767
Number of days of sick leave vs. none	1–5	<.0001	0.375	0.260	0.541
	6–10	0.0082	1.616	1.132	2.307
	11 and more	<.0001	18.736	10.563	33.233

For physicians, a BMI greater than 30 kg/m², a history of more than three episodes of back pain, lack of analgesic intake and number of work days missed in the last 12 months were independent variables associated with a longer expected recovery time

recovery time. For physicians, predictions of highly favorable outcomes were overly optimistic and only moderately accurate.

Regarding low back pain related to work injury, some studies have also demonstrated that expectations relating to recovery may predict outcome [4, 13]. However, in all these studies, the analysis is limited by uncertainty as to whether patients' recovery expectations are causal or predictive of outcome.

We found that many of the demographic and clinical characteristics of the patients affected expected recovery time. Most of these factors are similar to the risk factors identified for chronicity, disability and cost claims [3, 9, 17, 19]. The predictors of expected poor outcome identified in our study generally corresponded to those reported for poor outcome in previous studies of primary care patients: being female and aged [31, 33], history of back pain (e.g., previous treatment for back pain) [11], high BMI [3, 5, 26],

and being an unmarried employee [8] were all associated with a longer predicted recovery time. It therefore seems that the risk factors for chronicity identified in previous studies may be detected early in acute low back pain, by both the patients and their physicians, as risk factors for chronicity. Most of these factors are integrated into beliefs as deterministic factors for both patients and physicians. This suggests that preventive treatment should focus on these deterministic factors early, mostly through the education of patients and physicians, but also through education in society in general and in the family and professional worlds potentially perpetuating these beliefs. It would also be interesting to look at the respective weight of each factor for predicting a longer recovery time, and to investigate whether these factors are of real deterministic value. In a cross-sectional study, such as that carried out here, it is not possible to address such questions. Most cognitive behavioral therapies (CBT) for back pain have

been used in chronic conditions, but it might be useful to assess the use of CBT for the treatment of acute low back pain, to determine whether the early management of factors predictive of a poor outcome could change the outcome.

No other study has compared the influence of pain localization on outcome, as most studies focus on low back pain. Univariate analysis suggested that low back pain was associated with the risk of a longer expected recovery time than acute thoracic or cervical pain, but multivariate analysis did not confirm this finding, probably due to other confounding variables. Surprisingly, pain intensity itself was not a significant independent risk factor for patients: demographic, professional and social characteristics had a greater effect on expected recovery time. Pain intensity was identified as a predictive factor for chronicity (expected recovery time of more than 3 months, Table 3), as in a previous study [14] reporting a strong correlation between initial pain intensity and outcome, in 239 patients with low back pain studied prospectively.

Furthermore, the prescription of sick leave was not seen as a risk factor for chronicity by either patients or physicians (Table 3). Table 4 provides additional information about expected recovery time and shows that the amount of sick leave taken was not necessarily associated with an increase in expected recovery time: taking 1–5 days of sick leave seemed to help some patients to recover and to have a protective and positive effect, whereas longer periods of sick leave seemed to have a deleterious effect (Tables 4, 5). Back pain is an important issue in the workplace and many authors have explored the risk factors associated with this condition, including the number of days of sick leave associated with a lack of return to work [18, 20, 29, 30, 35]. This dual effect of the number of days of sick leave on expected time to recovery is shown here, but previous studies have tended to focus on much longer periods of sick leave, exceeding 3 months. Our study suggests that the prescription of sick leave may be beneficial for some patients, provided it is well controlled and cautious. This dual effect of the number of days of sick leave was observed in the expected recovery times given by both patients and physicians.

One of the main aims of our study was to compare patients' and physicians' expectations concerning recovery time. Patients and physicians gave the same expected recovery time in 60% of cases, and the final correlation between the expectations of patients and clinicians was moderate (0.43) in this sample. Similar results were obtained in another study on low back pain in which patients and physicians agreed on recommendations and treatment for LBP in 60% of cases [16]. It is clear that different mechanisms operate in the estimation of recovery time by patients and physicians: patients are mostly influenced by previous experience, whereas physicians are

mostly influenced by their knowledge and clinical experience [22], but this is not exclusive and patients may be influenced by the physicians' knowledge and physicians may be influenced by their own perception of back pain [25]. This is illustrated by the results shown in Table 2: discrepancies between patients' and physicians' predictions of recovery times were observed for previous episodes of back pain (representing a risk factor mostly for patients), and the number of work days missed in the last 12 months (representing a risk factor mostly for physicians). In our study, most patients (78.6%) had already had one episode and could hence base their expectations on personal experience. As such, they might expect their progress toward recovery to be similar to that for their previous episodes. If the doctor told them that they did not recover well last time because they were too fat, then they are likely to believe that this is again a negative risk factor. We found that physicians were more optimistic than patients: 22.4% of patients predicted a longer recovery time than physicians, whereas 17.4% of physicians predicted a longer recovery time than patients. Physicians were also more optimistic about the expected risk of chronicity: 141 patients estimated themselves to be at risk of chronic back problems, whereas only 94 patients were considered by their own physician to be at risk of chronicity.

The greater optimism of physicians than of patients is probably specific to acute pain, and different results have been obtained for chronic pain. For chronic pain, Galer et al. [10] found that physicians were better than patients at predicting recovery after pain relief procedures. As our study was cross-sectional, we were not able to assess the reliability of patients' and physicians' predictions by comparing these predictions with real recovery times. Previous studies have also demonstrated that physicians' expectations may influence treatment effects, accounting for a large part of the placebo effect [12].

The conclusions of this study are limited by the population sampled, the absence of psychological assessment (depression and anxiety), and a lack of follow-up. Physicians were recruited from throughout France, but the demographic characteristics of the participating doctors indicate that our sample was not entirely representative of French physicians. For example, the proportion of men was much higher (more than 80%) than for French physicians as a whole (less than 50% of GPs and rheumatologists). However, the strengths of our study include the large sample size for both patients and physicians, parallel analyses of the expectations of patients and their physicians, with the analysis of a large number of demographic and clinical variables, and assessment of expectations soon after pain onset, before medical care. Future studies on correlations between expectations for recovery time and real outcome may provide important information about the

predictive value of expected recovery time and its usefulness in clinical questionnaires.

In conclusion, the expected recovery time for back pain may provide important information about the expectations of both patients and physicians. Our findings indicate that, early in back pain, demographic and clinical characteristics predictive of chronicity may be used by both patients and physicians for the prediction of recovery time. These characteristics may therefore have a deterministic value that should be assessed in a prospective manner. We also demonstrated that, in acute pain conditions, physicians were more optimistic than patients about expected recovery time and expected risk of chronicity. Pain intensity and previous sick leave did not affect patients' predictions of recovery time, whereas physicians took greater account of the patient's professional environment when estimating recovery time. We recommend the inclusion of an assessment of expected recovery time, by both patients and physicians; in initial back pain evaluation. This rapid assessment could be used as a screening test for detecting possible risks of expected chronicity, making it possible to optimize the early management of back pain.

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