

ASSESSMENT OF THE MOST BOTHERSOME SYMPTOMS AND IMPACTS REPORTED BY PATIENTS WITH LOW BACK PAIN

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INTRODUCTION

- Low back pain (LBP) is usually defined as pain, muscle tension, or stiffness localized below the costal margin and above the inferior gluteal folds, with or without leg pain (sciatica).
- Although acute and subacute episodes (that last up to 3 months) are the most common presentations of LBP, chronic back pain causes more disability (physical limitations and psychological effects). [Manek 2005]
- Pain in the lower back affects up to 90% of Americans at some point in their lifetime. Up to 50% will have more than one episode. In Germany, the prevalence is higher than 70% [Wenig 2008].
- Because of the multi-dimensional factors involved in LBP, it is important to assess the patient experience through qualitative interviews in order to better understand LBP related concepts that are relevant to patients and that can be used as an essential endpoint in clinical studies.
 - Ultimately, a well-developed instrument that has firmly established content validity (based on qualitative data from patients) will be expected to demonstrate greater sensitivity in clinical studies of treatment benefit.

OBJECTIVE

- To identify those symptoms and impacts considered by patients with chronic low back pain (cLBP) to be the most bothersome for the purpose of identifying relevant concepts to assess in a new patient-reported outcome (PRO) measure for cLBP.

METHODS

Concept Elicitation Interviews

- Appropriate Institutional Review Board (IRB) approval was obtained prior to study initiation.
- Forty-three concept elicitation interviews were conducted in five clinical sites in the U.S. across different geographical locations and at one Market Research Facility in Germany.
- Participants were screened for eligibility, consented, enrolled, and scheduled for the qualitative interviews.
- Descriptive data collected included standard demographics, and the painDETECT questionnaire – a screening tool used to identify which group (neuropathic pain, non-neuropathic low back pain) the patient should be classified into.
- Trained interviewers conducted semi-structured qualitative interviews following a guide that included open-ended questions and a day reconstruction exercise to invite spontaneous responses from patients on the symptoms and impacts of their LBP experience.
 - The guide also included a series of follow-up probing questions to support exploration of symptom and impact areas not mentioned spontaneously by patients.
 - All interview sessions were audio recorded and transcribed.
 - At the close of the qualitative interviews, patients were asked to rate their most bothersome symptoms and most difficult impacts using a 0-10 numerical rating scale (NRS) with 0 representing no bother and no difficulty at all, and 10 representing the greatest amount of bother and difficulty imaginable.

Study Population

Inclusion Criteria

- For English speaking sites, subjects were eligible if they could read, write, and speak English well enough to understand and complete Informed Consent Form (ICF) and take part in the interview process. Participants in Germany were native speakers of German, and their interviews were conducted in German (simultaneously translated into English).
- Male and female subjects 18 to 80 years of age
- Clinical diagnosis of LBP of non-malignant origin, with pain present for at least 3 months
- Patient reported current LBP score of ≥ 4 on an 11 point NRS (Numeric Rating Scale) pain scale and was in otherwise stable general health.

Exclusion Criteria

- A subject was not eligible for this study if:
 - Subject's chronic LBP was potentially associated with a specific spinal cause.
 - Subject had any recent low-back surgery or had undergone invasive procedures aimed to reduce LBP within the past 1 month.
 - Subject had a recent history of clinically significant drug or alcohol abuse or dependence –or– significant psychiatric disorder.
 - Subject participated in another investigational device, drug, or biologics product study within the last 30 days.
 - Subject had a clinically-significant history of brain injury, stroke, or cancer.
 - Subject had any conditions other than LBP that could confound the assessment or self-evaluation of pain.
 - In the opinion of the investigator, subject had any other medical condition that could compromise his/her ability to give written informed consent or interfere with the patient's ability to successfully participate in a face-to-face interview.

Analyses

- All interview sessions were audio recorded and transcribed.
- The study participants used a variety of language to express their symptoms. As they described their LBP experience, the interviewer entered the individual symptoms (using the patient language) on a "symptom bothersomeness" worksheet. Once the symptom expressions were listed on the symptom bothersomeness worksheets, participants were asked to rate the amount of bothersomeness that each expressed symptom caused them (using a zero to a 10 point NRS scale, with zero indicating not bothersome at all and 10 indicating extremely bothersome).
- Table 2 shows the mean level of bothersomeness experienced by participants because of their LBP symptoms.
- A similar worksheet-based process was used to obtain ratings of the amount of difficulty associated with each impact concept expressed during the concept elicitation interview.
- Table 3 shows the mean difficulty ratings for the impacts patients expressed.

Table 1: Characteristics of Interview Participants

		TOTAL (N=43)
Age (Years):	Mean (SD)	48.6 (13.0)
	Median	48.0
	Range	21-73
Gender:	Male	20 (46.5%)
	Female	23 (53.5%)
Marital status:	Married or Living as Married	24 (55.8%)
	Living with Partner	5 (11.6%)
	Widowed	3 (7.0%)
	Separated	1 (2.3%)
	Divorced	8 (18.6%)
	Never Married	2 (4.7%)
Highest Level of Education:	Less than High School	3 (7.0%)
	High School	13 (30.2%)
	Some College	13 (30.2%)
	Bachelor's Degree	5 (11.6%)
	Graduate or Professional School	4 (9.3%)
	Missing	5 (11.6%)
Employment outside home:	Not Employed Outside Home	4 (9.3%)
	Full-time	21 (48.8%)
	Part-time	2 (4.7%)
	Retired	6 (14.0%)
	Not Employed	10 (23.3%)
	Racial and Ethnic group:	White/Caucasian (Non-Hispanic)
	White/Caucasian (Hispanic)	2 (4.7%)
	Hispanic/Latino	1 (2.3%)
	Black/African American	4 (9.3%)
	Asian	2 (4.7%)
	American Indian (Hispanic)	1 (2.3%)
	Other: Mixed Race	2 (4.7%)
Pain Intensity: (NRS=0-10)	Mean (SD)	6.7 (1.3)
	Median	7.0
	Range	4-10

RESULTS

- A total of 43 concept elicitation interviews were conducted. Participant mean age was 48.6 \pm 13.0, majority were female (53.5%) and 74.4% of participants described their racial/ethnic group as White/Caucasian (Non-Hispanic). Participants' mean pain intensity was 6.7 \pm 1.3.(Table 1)
- Patients rated most symptoms as being highly bothersome, with mean ratings between 5.9 and 9.6 on the NRS (Table 2).

TABLE 2: Symptom Bothersomeness Rating Table

SYMPTOM BOTHER	Total (N=43)					
	(0 = not bothersome at all, 10 = extremely bothersome)	N Rating	Mean	Median	SD	Min
Excruciating Pain	12	9.6	10.0	0.8	8	10
Sharp Pain	18	8.7	9.0	1.3	7	10
Unspecified Pain	17	8.7	10.0	1.9	3	10
Shooting Pain	19	8.6	9.0	1.6	4	10
Heaviness	7	8.3	9.0	2.1	5	10
Pulling Pain	11	8.2	8.0	1.8	5	10
Dull Pain	12	8.1	8.5	2.2	3	10
Electric Shock/Jolts	10	8.0	8.0	2.0	5	10
Spasms	17	7.7	9.0	2.7	2	10
Stabbing Pain	15	7.7	8.0	2.2	4	10
Stiffness	27	7.6	8.0	2.4	1	10
Cramping	12	7.5	8.0	2.4	3	10
Burning Pain	19	7.4	8.0	2.1	3	10
Hot Sensation	5	7.4	7.0	2.9	3	10
Tightness	9	7.1	8.0	1.4	5	8
Throbbing/Pulsating	19	7.0	7.0	2.4	1	10
Ache	14	6.9	7.0	2.5	3	10
Pressure/Squeezing	25	6.8	7.0	2.5	3	10
Pins and Needles	13	6.7	6.0	1.6	5	10
Numbness	28	6.0	6.0	2.6	1	10
Tingling	19	5.9	5.0	3.0	1	10

- The ratings show the most bothersome specific symptoms of LBP to be "Excruciating Pain", followed by "Sharp Pain", and "Shooting Pain". The lowest ranked items were "Tingling", "Numbness" and "Pins and Needles".
- The range of mean difficulty ratings for impacts was between 5.0 and 9.5 (out of 10.0). The effects on "Climbing Stairs", "Standing" and "Sports" were assigned some of the highest difficulty ratings, followed by "Work/School/Volunteer Duties", "Leisure Activities", and "Sleep Difficulties" (Table 3).

TABLE 3: Impact Difficulty Rating Table

IMPACT DIFFICULTY	Total (N=43)						
	(0 = not difficult at all, 10 = extremely difficult)	N Rating	Mean	Median	SD	Min	Max
Physical Activity Limitations							
• Sports	13	8.4	9.0	2.0	4	10	
• Walking	37	7.8	8.0	2.2	2	10	
• Exercise	21	7.8	8.0	2.1	2	10	
• Other Limitations	11	6.4	7.0	2.2	2	10	
Restricted Body Movement							
• Climbing Stairs	4	9.5	10.0	1.0	8	10	
• Standing	10	8.4	9.0	1.8	5	10	
• Carrying/Lifting	14	7.6	8.5	2.5	2	10	
• Sitting	34	7.5	7.8	2.0	3	10	
• Bending	16	7.2	8.0	2.4	2	10	
• Other Restrictions	18	7.4	8.0	2.2	3	10	
Difficulty Getting Around							
• General Mobility	8	7.0	8.0	2.8	2	10	
• Travel	4	6.8	6.0	2.2	5	10	
• Driving	26	6.5	7.0	2.8	1	10	
Difficulty with Daily Activities							
• Work/School/Volunteer	35	7.9	9.0	2.4	2	10	
• Household Duties	36	7.1	7.5	2.6	2	10	
• Personal Care	13	5.0	5.0	2.2	1	9	
• Other Duties/Obligations	2	6.5	6.5	2.1	5	8	
Social/Lifestyle Limitations							
• Leisure Activities	33	7.9	9.0	2.4	2	10	
• Sex	11	7.7	8.0	1.7	5	10	
• Relationships	21	7.4	8.0	2.8	2	10	
• Social Activities	18	7.2	7.5	2.4	2	10	
Emotional Impacts	42	7.7	9.0	2.4	2	10	
Financial Burden	15	7.5	9.0	3.4	1	10	
Sleep Difficulties	33	7.9	9.0	2.3	1	10	
Low Energy/Physical Stamina	22	7.7	8.0	2.1	3	10	
General Productivity	17	7.5	8.0	2.3	2	10	

CONCLUSION

- Qualitative concept elicitation interviews identified a wide-variety of bothersome symptoms and difficult impacts experienced by patients with chronic LBP.
- The symptom concepts rated to be the most bothersome and the impact concepts rated to be most difficult can be viewed as the most relevant and important disease-defining concepts from a patient perspective.
 - Patient-reported outcome (PRO) instruments should include these concepts into early stages of PRO instrument development.
- Additional work is needed to assess whether items measuring these concepts are sensitive to change with treatment.

References:

- Manek NJ, MacGregor AJ. (2005) Epidemiology of back disorders: prevalence, risk factors, and prognosis. Curr Opin Rheumatol 17:134-4.
- Wenig CM, Schmidt CO, Kohlmann T, Schweikert B. (2008) Costs of back pain in Germany. Eur J Pain 12;13(3):280-6.

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