

17. Special psychological components of chronic lumbar spine pain

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The psychological assessment of patients with lumbar spine complications is essential to the psychological understanding and treatment of these patients. Measurement error variance in such assessment procedures is always present when attempts are made to apply results of objective, standardized tests to *individual, clinical cases*. In a previous paper, "A Functional Psychological Approach to Low Back Pain,"¹ I took the position that useful, clinically effective psychological assessment techniques will demonstrate the following characteristics: the psychological measurement technology should allow for a patient's self-rating of his own psychological disposition; such self-ratings should represent measures of psychological variables that bear expected relationships to the orthopaedic phenomenon in question; the self-ratings should be numerical in form, allowing for a determination of degree of significance by the patient; the self-ratings should occur over time, thus allowing for an assessment of changes in the patient's conception of his most current psychological disposition; and the self-ratings should track the results of psychological treatment in a manner allowing for a results-oriented evaluation and thereby yielding numerical results useful for clinical and research purposes.

In addition to an emphasis on self-report methodologies, I accented in the paper¹ the value of psychological assessment procedures that are integrated with a unifying conceptual psychological framework and a related set of psychological treatment concepts and techniques. In short, I emphasized the importance of one's knowing precisely why specific psychological variables are being measured, what the indicated value of these measurements is to the overall medical treatment of the patient, and how changes in these measurements should reflect changes in the status of the patient's ongoing psychological-medical disposition.

In this chapter I will illustrate how this functional psychological approach is implemented in relation to a specific patient. Although I could have presented other patient histories to exemplify this approach, I felt one particular patient's lumbar spine-related experiences were representative of many other lumbar spine patients and the special psychological complications they experience. The reader should be cautioned that the following specific case history is intended primarily to

illustrate a particular psychological approach to lumbar spine patient care, not to be evidence of how all such patients experience this medically based life complication.

MEDICAL HISTORY

Patient X is a 28-year-old white man who injured his back while on the job. He was therefore a Workmen's Compensation case. The day following the injury his condition was worse, and on the second day after injury he was unable to get out of bed. On this second day he also had the onset of left leg pain radiating into the posterior thigh and posterior lateral calf and to the foot, with a sensation of numbness in the S1 distribution of his left leg but no motor deficit. He was initially treated by a family physician with a conservative regimen including oral steroids, pain medication, and bed rest, all of which had no effect on his symptoms.

The patient was then referred to an orthopaedic surgeon. The initial physical evaluation showed considerable bilateral lumbar spasms, and the patient was able to flex his lumbar spine approximately 20 degrees. Lateral bending and back bending were normal. Trendelenburg tests were normal bilaterally.

The patient was able to stand on his toes and on his heels without difficulty. Straight leg raising was positive on the left at approximately 50 degrees, causing radiculopathy in the S1 dermatome. A reflex examination showed that the knee levels were 3/3, and the ankle levels 3/3. Sensory examination of L2 through S2 demonstrated hypoesthesia in the L5 and S1 distribution on the left side compared to the right side. He had positive tension signs on the left side.

Patient X was subsequently admitted to the hospital for further evaluation. Following the day of admission, an ascending lumbar venogram was done, which demonstrated disc herniation at the L5, S1 level on the left. On the myelogram taken the following day, there was some perceptible change at the L5, S1 level, but not dramatically so. Because of the size of the disc hernia, the decision was made to proceed with continued conservative care, but to later do a discectomy should the patient fail to respond or should his symptoms increase.

PSYCHOLOGICAL EVALUATION

Following hospitalization and the aforementioned examinations, the patient was referred for a psychological evaluation and psychological treatment if indicated. A brief summary of Patient X's psychological history is as follows. Born to a lower middle-class family background, he proceeded through early childhood and adolescence in a routine, unremarkable manner. Although he completed high school with average grades, he described these years as little more than occupying a chair. Following high school, he entered the navy where 4 years of service earned him an honorable discharge at age 22. One year later after a 3-month courtship, Patient X married his first wife and was divorced 4½ months later. At age 26, he married his second wife, and this marriage continues to the present to be a satisfying marriage, resulting in one child.

Patient X summarized his prevailing motivation to be dominated by his concerns for the health and welfare of his family and his ability to provide financial support. His specific self-ratings on the Personal Concerns Inventory (PCI) indicated the primary concerns that are presented in Table 17-1 over a time span of 10 months.

Table 17-1. Primary patient personal concerns for a 10-month period

Personal concerns	4-5-78	5-11-78	5-18-78	6-1-78	6-22-78	8-8-78	8-24-78	9-13-78	9-28-78	2-14-79
Back pain	10	5	6	8	10	3	2	1	1	1
Tension	8	4	6	2	6	2	2	3	2	1
Need to relax	10	2	10	5	8	2	2	1	1	1
Sleeping problems	8	2	5	5	6	5	5	1	1	1
Continued physical pain	10	2	5	5	6	2	1	1	1	1
Unexpressed anger	8	5	6	2	5	2	2	1	1	1
Short temper	8	5	5	5	6	2	5	4	1	2
Worry too much	8	6	7	5	6	4	5	3	2	1
Have trouble making decisions	7	5	5	4	6	2	2	2	1	2
Need more recreation	7	8	6	5	6	10	5	4	10	5
Need physical exercise	8	0	5	2	5	10	5	4	4	0
Boredom	9	3	6	2	5	6	2	2	1	1
Cigarette smoking	10	2	6	4	6	2	4	5	2	5
Poor eating habits	10	0	5	5	5	5	2	2	0	0
Job security	10	10	7	10	10	2	10	10	10	10
Need employment	10	10	10	5	10	10	10	10	10	10
TOTAL PCI SCORE (52 ITEMS)	239	129	183	155	213	109	99	83	65	61

It is clear from inspection of Table 17-1 that the self-ratings and numerical indexes of the patient's self-expressed levels of personal concerns, stresses, and tensions were useful measures of his ongoing psychological disposition related to his extant lumbar spine problem. The ratings over time were effective measures of increases and decreases in levels of patient stress and tension.

Two basic factors contributed to changes in specific and sum total PCI scores from April 5, 1978, to May 11, 1978. First, the patient was involved in an ongoing series of psychological consultations related to coping with daily stresses, and he was also engaged in relaxation therapy on a daily and sometimes twice-a-day regimen. This ongoing psychological treatment provided the patient with structure, guidance, and coping skills useful for the successful handling of daily life-style complications. On May 18, 1978, situational variables surfaced in the course of his ongoing medical problems that contributed greatly to increases in the patient's overall levels of personal concern and stress. More specifically, on May 18, 1978, Patient X's PCI score of 183 (54 points above the May 11, 1978 ratings) was elevated because the insurance carrier requested a second orthopaedic evaluation of the patient's need for surgery, and this evaluation did not lend encouraging support for surgical intervention. Because the patient viewed surgery as both necessary and advisable, this information was disconcerting to him. Eventually on July 20, 1978, Patient X did undergo elective surgery for an L5, S1 disc excision and a posterior lumbar interbody fusion. Thus the Aug. 8, 1978, PCI score of 109 reflects a signif-

icant change in the patient's preoperative-postoperative, stress-related personal concerns.

The patient's care after surgery involved a carefully planned physical therapy regimen and psychological consultations on an as-needed basis, both of which were coordinated in support of the overall medical care provided by the attending physician. It is clear that Patient X did view his postoperative condition as relatively free of pain and that his stress-related tensions go beyond those associated with his needs for employment and financial support for his family. It should be noted that Patient X did eventually undergo vocational rehabilitation and did find suitable employment.

Fig. 17-1 presents the total PCI scores (for all 52 items), for a 10-month period and reveals graphically how the patient's perception of his own psychological concerns increased and decreased as a function of alterations in his overall medical-psychological disposition. Most evident during the last few months of medical care are the patient's minimal levels of personal concern. Inspection of Table 17-1 reveals that the only elevated personal concerns during the last few months of treatment were for the two nonmedical, employment-related items.

Approximately 7 months after surgical intervention, the orthopaedic surgeon made the following report.

Patient is now 7 months postop. He continues to have a solid fusion, complains of some early morning stiffness, has no leg pain but does have occasional mild backache that seems to be related to his increasing physical activity. At this point he is participating in a rehabilitation program and is motivated to return to work. He is quite happy with his clinical result and is at a point where he can resume full unrestricted activities.

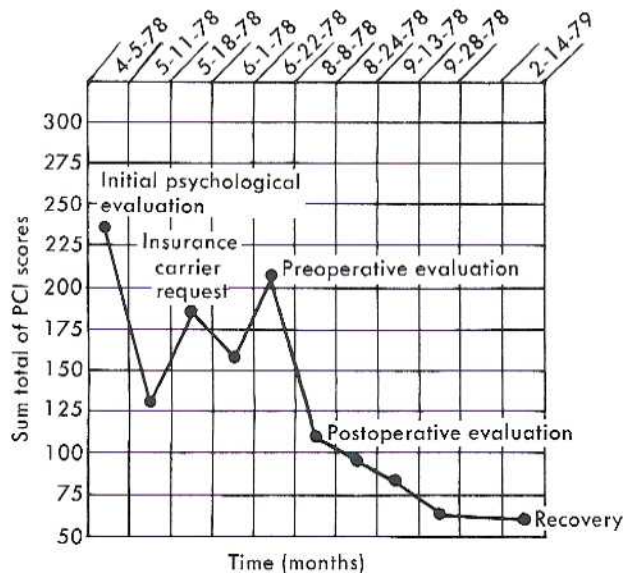


Fig. 17-1. Total PCI scores for specific dates during a 10-month period.

COMPARISONS OF PCI MEASUREMENTS WITH OTHER PSYCHOLOGICAL TEST RESULTS

Patient X completed a psychological assessment procedure that included the administration of the PCI along with the Rotter Incomplete Sentences Blank (ISB)⁴, the Novaco Anger Scale (NAS),² and the Internal/External Locus of Personal Control Scale.³ A structured psychological case history was also included in the overall assessment of the patient's psychological disposition on May 5, 1978.

The patient's ISB score of 130 was statistically within the "normal" range and indicated that the patient was not unusually psychologically conflicted on that date. This result contrasted somewhat with results of the PCI, which indicated some primary personal concerns requiring specific treatment emphasis. Normal people do have personal conflicts, and this is particularly true of chronic low back pain patients. Thus, although the patient was viewed as psychologically normal and a stable personality, the PCI revealed specific patient concerns that transcended the value of psychological categorizations and statements of normalcy or abnormalcy.

The patient's NAS did indicate a fairly high level of dispositional anger (1 standard deviation above the mean for the general population), and inspection of the patient's PCI self-ratings of unexpressed anger and short temper clarified that this was equally apparent to the patient in his assessment of himself. High ratings on these two PCI items are not unusual for chronic pain patients who live under the frustrations associated with continued physical pain and discomfort.

The Internal/External Locus of Personal Control, indicated that the patient was about average in comparison with the general population in tendency to attribute future successes and failures to luck and powerful others. Unfortunately, this assessment result did not indicate a course of psychological treatment for this specific patient. In fact, one can see that after combining the clinically useful information available from results of the three objective tests, this information was of minimal value when compared to the data that were available from the PCI.

PCI results also have the added advantage of providing information over time that is directly related to the patient's medical condition. It seems clear, then, that the present PCI methodologic approach to lumbar spine patients provides psychological data that are clinically useful beyond information obtainable from selected objective tests and also data that are amenable to research evaluations.

SUMMARY

This chapter presented a case study of a lumbar spine patient and how the PCI assessment methodology is applied in a specific clinical case. The fundamental features of the PCI approach to assessment were to take a patient's numerical self-ratings of his own psychological disposition and of stress- and tension-related variables over a period of time, thus allowing for results-oriented clinical and research assessments.

The patient indicated 16 out of 52 PCI items as primary concerns, and he also revealed a high level of personal stress-conflict on the day of the initial psychological evaluation. The patient's total PCI score decreased as a function of relaxation therapy effects and psychological consultations that focused on support, guidance, and the development of skills for coping with stress and tension.

Prior to surgery an increase in the patient's PCI stress concerns was observed due to treatment complications arising from actions of the insurance carrier that led the patient to fear he may not obtain the desired surgery. The dramatic decrease in PCI scores (104 points) after surgery was evidence of the value of the PCI methodology as a clinical tracking device that clarified *what* the patient experienced psychologically before and after surgery. The postoperative PCI scores all decreased to minimal levels of patient concern except for two specific nonmedically related employment and job security variables.

The patient did experience a satisfactory surgical result and did attain a satisfactory and stable level of psychological adjustment. These results were observable in lowered PCI scores over a period of time spanning the medical care of the patient. Comparisons of the PCI methodology with other objective test results were made, and it was concluded that the PCI results made substantially more useful contributions to the clinical evaluation and treatment of this lumbar spine patient.

REFERENCES

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