

THE FELDENKRAIS METHOD IN THE TREATMENT OF CHRONIC PAIN: A STUDY OF EFFICACY AND COST EFFECTIVENESS

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Abstract. A preliminary study was undertaken to determine both the efficacy and cost effectiveness of the Feldenkrais Method for treatment of Medicaid recipients with chronic pain at the Santa Barbara Regional Health Authority (SBRHA). SBRHA staff wished to offer treatment for chronic pain patients beyond what is provided for in the Medicaid scope of benefits. Conventional intensive chronic pain treatment programs costs range from \$ 7,000 to \$ 30,000 and are not covered by regular Medicaid benefits. Patients with chronic headaches and/or musculoskeletal problems were enrolled in the study. Seven patients began the program; all completed it. Patient satisfaction, function and perception of pain were evaluated by using the National Pain Data Bank (NPDB) protocol of the American Academy of Pain Management. Participants reported more mobility and decreased perception of pain, both immediately after the program and in a one-year follow-up questionnaire. Results compared quite favourably with NPDB comparison groups. Cost effectiveness calculations were based on Medicaid costs for one-year periods pre- and post-intervention. Patient costs dropped from an average of \$ 141 per month to \$82 per month. This represents a 40 % savings.

Descriptors. Alternative medicine, chronic pain, complementary medicine, cost effectiveness, Feldenkrais

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INTRODUCTION

The Santa Barbara Regional Health Authority (SBRHA) serves 41,000 Medi-Cal (California Medicaid) patients in Santa Barbara County. It has operated since 1983. SBRHA, created by a special act of the California State Legislature, has much more flexibility in its scope of benefits than the state-administered Medi-Cal program. The SBRHA board of directors has used that flexibility to approve experimental trials of various new modalities.

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Traditionally, patients with chronic pain have been demanding of their primary care providers and generally unhappy with their health care. Health care professionals have been frustrated with the inability to provide adequate relief and lack of resources for patients who were unresponsive to conventional pain treatment methods. To address these concerns, SBRHA decided, in 1995, to use its flexibility to provide, on a trial basis, services beyond the Medi-Cal scope of benefits.

Our focus is on patients who have limited or no response to conventional treatments for chronic physical pain from injuries, surgeries or chronic conditions. Many of these members also have coexisting mental health problems, such as depression and anxiety. Several have exhausted conventional medical options. For most of these patients, pain relief typically consists of prescription medications or self-medication with alcohol or illicit drugs.

These patients are both difficult to manage and costly. Most exhibit a variety of difficulties that characterize pain-related immobility, including physical degeneration and other pathologic conditions. Like most chronic pain patients, members in our target population have been prone to depression, hopelessness, the loss of supportive relationships, and the breakdown of meaningful social contacts. In light of the patient population, SBRHA sought a treatment intervention that would both help the patient and assist the primary care provider with patient management. The treatment needed to be justified on grounds of both therapeutic efficacy and cost effectiveness.

This article entails a discussion of a chronic pain program that used the Feldenkrais Method exclusively. The program was evaluated by using data processed by the National Pain Data Bank (NPDB) of the American Academy of Pain Management. Cost effectiveness was assessed by comparing Medicaid costs for one-year periods pre-and post-intervention.

RATIONALE

The basic rationale for investigating complementary/alternative medicine was one of economics and patient and conventional practitioner acceptance. Simply stated, traditional pain management programs are costly. Annual health care costs for chronic pain Medicaid patients in our area are \$ 1,000 to \$ 7,000. Second, a 1990 study demonstrated that, in 1990 alone, one-third of Americans visited alternative health practitioners, often without telling their primary care physicians (1), and more recent literature shows that number to be even higher (2). As has been noted, “numerous practices that are termed alternative, unconventional, or integrative medicine have become increasingly popular and prevalent” (3). Alternative/complementary therapies are gaining credibility with providers. Berman *et al.*, reported that over half of family physicians surveyed considered alternative medicine interventions (including diet and exercise, biofeedback, hypnotherapy, and massage therapy) legitimate medical practices (4). The NIH Office of Alternative Medicine (newly named the National Center for Complementary and Alternative Medicine) estimates that over 50 % of traditionally trained physicians in the US use or refer patients to non-traditional treatment practitioners/modalities (5).

Economics. Pelletier *et.al.* interviewed 18 insurers and found that a majority offered some coverage for nutrition counselling, biofeedback, psychotherapy, acupuncture, preventive medicine, chiropractic, osteopathy, and physical therapy (6). The authors concluded that consumer demand for complementary and alternative medicine (CAM) is motivating more insurers and hospitals to assess the benefits of CAM and suggested that “outcome studies for both allopathic and CAM therapies are needed to help create a health system based on treatments that work, whether they are mainstream, complementary, or alternative” (6).

THE FELDENKRAIS METHOD

SBRHA learned of the Feldenkrais Method through an independent case manager for Workers’ Compensation who described the good results she had been seeing with her patients who had not responded to conventional treatments. She reported that the Feldenkrais Method had been paid for by Workers’ Compensation and other third-party payers. And she introduced SBRHA to a local Feldenkrais practitioner who studied with Dr. Feldenkrais.

Dr. Moshé Feldenkrais earned his doctorate in science at the Sorbonne in electrical and mechanical engineering and mathematics. In the 1930s, he was principal assistant to Frédéric Joliot-Curie in the research that led to Joliot-Curie’s being awarded the 1935 Nobel Prize in

chemistry. From 1950 until his death in 1984, Feldenkrais lived in Tel Aviv and devoted himself to research on biomechanics and neurophysiology – and to developing the Method.

As a teenager, Feldenkrais had severely torn the ligaments and cartilage in his left knee. He reinjured his knee while in England. At that time, numerous surgeons told him that an operation was necessary and that there was only a 50 % chance that he would be able to walk without a cane. His wife was a paediatrician, which provided him with opportunities to observe many infants and how they move and learn. Instead of surgery, he began to study himself and how he was moving, using his scientific training, experience, and insights into how babies learn to crawl and walk. He learned to walk freely without the benefits of surgery.

The Feldenkrais Method has two forms – group and individual. Group lessons, *Awareness Through Movement*, systematically refine the process through which toddlers learn to walk. The practitioner uses verbal directions to guide people through specific sequences of relatively simple, comfortable movements. Most lessons take 45-60 minutes and are done while lying or sitting. Unlike yoga, chi kung, or other practices or exercises, people move at their own pace, in accordance with their unique needs and conditions, neither imitating anyone nor trying to achieve any particular goal. The emphasis is on awareness, on learning to sense changes or differences. In this way, one learns to eliminate excess effort or other inefficient habits, while simultaneously discovering more comfortable and effective alternatives.

Individual Feldenkrais lessons typically last 30-60 minutes. They are usually done with the student sitting or lying on a low, padded table. The practitioner gently and precisely moves the student, turning the head, for example, or pushing or lifting a leg or arm. Practitioners are carefully trained to be sure that movements are relatively comfortable; movements are often quite small, although sometimes they can be rather large and playful. Students remain fully clothed.

A fundamental precept of the Feldenkrais Method is that awareness and attitude are more important than any specific act. With back pain, for example, regardless of how it may be described or diagnosed, one only experiences pain when somehow straining, stiffening, or moving inefficiently. People typically assume that pain causes movement difficulties, yet the converse is equally true. As patients become more aware and learn to move more skilfully, both pain and ineffective movements resolve, improve, or are relieved.

Feldenkrais lessons, with their educational emphasis, are compatible with all appropriate medical treatments, conventional or alternative. Each lesson, group or individual, is designed to enhance activities of daily living.

PILOT STUDY

The SBRHA administrative and medical staff was concerned about the lack of research substantiating the benefits of the Feldenkrais Method. The SBRHA administrative staff participated in an *Awareness Through Movement* demonstration. This exposure to the Feldenkrais Method was a factor that helped convince SBRHA management to recommend the pilot program to the SBRHA Board of Directors. The Board then approved the pilot project. Feldenkrais was offered as a special SBRHA benefit for selected members. The SBRHA program was designed and taught by a certified Feldenkrais practitioner and a nurse.

Patient selection. At that time that SBRHA was considering the Feldenkrais Method, it was also evaluating acupuncture for chronic pain patients. SBRHA decided to conduct programs in both modalities and to select patients based on categories of chronic pain that had previously been shown to respond well to acupuncture treatment: musculoskeletal pain of the neck, shoulder, arm, and/or back; tension and migraine headaches; and pain following injury. Anxiety was a co morbid condition for most patients. Patients excluded from the study

population included those whose pain had significant structural causes and also patients with cancer, over age 70, or those whose total annual health care costs were less than \$ 1,000.

METHODOLOGY

After identifying members who might benefit from this program, the SBRHA medical staff communicated with the members' primary care physicians to see if they concurred with the intervention and would work with SBRHA members on this pilot.

Seven participants were selected. All completed the program. The goals of the treatment were to reduce complaints of pain, improve mobility and skill functioning, reduce use of licit and illicit analgesics, and reduce demand for health care services during the one-year follow-up period.

The program began with a 2-week intensive phase, 4 to 5 hours each day, 4 days each week. This design was based on the immersion characteristic of conventional pain management programs. A secondary phase involved 6 more weeks with one meeting each week, 4 hours for the first two meetings, 2 hours for two meetings, and then just one hour for each of the final meetings. The participants met at Santa Barbara Cottage Hospital during August and September of 1995.

The program consisted of primarily of *Awareness Through Movement* lessons. Lessons were chosen and designed to emphasize ways to sit and walk comfortably and to breathe easily and efficiently. Some individualized Feldenkrais was done with most of the participants, but only for about 5 minutes at a time within the group setting. At each meeting, participants were encouraged to describe any benefits they were experiencing and to reflect on how they were integrating new ideas and movement possibilities into their everyday activities. Group discussions were intentionally oriented toward positive issues and away from reports of pains or problems. A recurrent theme in the discussions was that toddlers learn to walk, and while doing so they outgrow crawling. Participants were encouraged to consider how the Feldenkrais Method was providing them with ways to "outgrow" their pains or problems.

EVALUATION

Efficacy. Therapeutic efficacy and cost effectiveness were evaluated by considering patient mobility, patient perception of pain, and total health care costs and pharmacy costs. The American Academy of Pain Management's National Pain Data Bank (NPDB) test instrument was administered before the program, immediately post-treatment, and (by telephone) at one-year post-treatment. This evaluation involved participant self-assessment of functional status. The NPDB classifies and analyses the benchmarks and quality of pain treatment programs, and compares programs throughout the US. The NPDB compared the Feldenkrais program with 12 other programs with 365 chronic pain patients in the category of "Small Multidisciplinary, Outpatient." These programs are evaluated with regard to quality of life, functional status, patient satisfaction, and rates of return-to-work.

The NPDB collects data on patients' social history, history of treatment, and their quality of life. From the information collected at discharge and one-year after discharge, the level of patient satisfaction and the improvement in their quality of life can be assessed. The one-year follow-up survey was administered over the telephone in September of 1996. Six of the original 7 participants were located and completed the follow-up survey.

Cost. SBRHA maintained historical cost data for all participants in the study. Medicaid costs were compared for the year preceding the Feldenkrais intervention and for one year following the end of the intervention. Costs were compared both before and after the intervention.

RESULTS

Demographics. With regard to age, sex, race, marital status, and level of education, there were no significant differences between participants in the Feldenkrais program and those in the 12 comparison programs. Ages were widely distributed; there were slightly more females than males; more than half were divorced. SBRHA members were slightly more likely to live alone.

More SBRHA patients were unemployed and had been unemployed for longer periods of time. They had lower incomes, predominantly derived from disability payments. About three-fourths of participants in both the SBRHA program and the comparison groups were involved in legal actions relating to their conditions. There were substantial differences between the SBRHA population and the comparison group in terms of the number of patients who suffered abuse as children or adults (Table I).

Pain history. SBRHA patients reported having pain in more areas than in the comparison programs, suggesting that the pain experienced was also more severe. In addition, SBRHA members had been experiencing pain for longer periods of time. One hundred percent of participating patients experienced pain for over 24 months, compared to 47.2 percent in the comparison group. Fewer of the SBRHA patients were injured at work, yet SBRHA patients had a greater rate of unemployment.

Table I. Patient background information.

'Category	SBRHA patients (n = 7)	Comparison patients (n = 365)
Sexually abused as children	43 %	9 %
Sexually abused as adults	57 %	6 %
Physically abused as children	71 %	9.5 %
Spousal/partner abuse	57 %	13 %
Childhood rated as unhappy	29 %	13.5 %

Prior to the program, SBRHA patients had received more treatment for their pain than patients in comparison groups. SBRHA patients also had a greater number of hospitalisations and prior surgeries for their current pain problems. Also interesting was the fact that SBRHA patients included fewer current smokers but alcohol drinkers.

Perception of pain. Prior to the Feldenkrais program, 28 % of SBRHA patients reported excruciating pain. Some of the methods they had tried to ease their pain were acupuncture, heat, manipulation, counselling, exercises, and medication. At the conclusion of the treatment phase, no participating SBRHA study patients reported excruciating pain.

Functional status. Patients treated in both the Feldenkrais program and in comparison groups reported an increase in their ability to walk, bathe, dress, use the bathroom, drive a car, and engage in sex without the interference of pain. Prior to the program, 14.2 % of the 7 Feldenkrais program patients spent 9 or more hours each day lying down, and none post-treatment. Pre-treatment, 74.2 % of the SBRHA patients were experiencing pain all the time when they walked. At the conclusion, that number had decreased to 16.6 %. At the start of the program, 71.2 % experienced pain while driving, decreasing to zero at the conclusion.

Patient satisfaction. At the end of the Feldenkrais program, 100 % of the patients reported some level of improvement. This compares favourably with data of the NPDB which lists the general expectation of comparable improvement to be 55.5 %. Feldenkrais clinician-perceived patient satisfaction was nearly 80 % in the SBRHA group; in the comparison group, only 33.7 % of patients were perceived by clinicians as satisfied. In both SBRHA and NPDB comparison groups, high percentages reported feeling less depressed, suffering less anxiety, and also being able to relax more. A higher percentage of patients in the SBRHA group reported that they were able to return to some of the activities they had participated in prior to their pain. In almost all areas related to quality of life and functional status, SBRHA participants showed significant improvements immediately following the program.

Summary. Generally, the Feldenkrais participants showed dramatic improvements by the end of the program, with 80 % stating that they were completely or almost completely satisfied with the overall treatment. Participants' health care visits decreased, and the cost of pain care was reduced. Furthermore, the cost of the study program to SBRHA was a small fraction of the cost of most standard pain treatment programs. Additionally, medication costs were reduced post-treatment (Table II).

Table II. Patients using five or more medications.

Group	Pre-treatment	Post-treatment
Feldenkrais Program	14 %	0
NPDB comparison groups	3.2 %	6 %

An area of clear importance is the number of health care visits each patient had in a 12-month period. In the year prior to the Feldenkrais program, 71.4 % had more than 20 appointments with a health care professional, and the rest had 8-10 appointments. In the year following the program, 100 % had between 11-15 visits. Cost analysis of the Feldenkrais program documented pharmaceutical and outpatient medical costs of \$ 141 per member per month (PMPM) during the 13 months prior to the intervention. For the 14 months following the program, costs were just \$ 82 PMPM: This represents a 40 % decrease. The \$ 54 PMPM savings shows that with this group, the SBRHA recovered its direct cost of \$ 700 per member within 13 months.

At the one-year follow-up, while participants lost ground in most areas of pain control, function, and quality of life, they were judged generally healthier than at intake.

CONCLUSIONS

While this preliminary inquiry represents an uncontrolled, unblinded investigation, the results were very promising. Whether they were due to a placebo effect or to some more specific scientific explanation is largely irrelevant. Physicians are often frustrated by chronic pain patients' unresponsiveness to conventional approaches. Such patients often feel neglected and become angry and resentful. This program provided SBRHA and its physicians with an opportunity to affirm to our patients that we recognize that their perception of pain is real. It demonstrated to them that the clinic is willing to go beyond the normal scope of Medicaid-covered benefits to intervene positively. The afflicted patients gained from both the treatment modality and the opportunity to be exposed to therapeutic touch with providers who are reassuring and positive about the modality's ability to diminish pain and facilitate healing.

It should be noted that although this is a Medicaid study population, pain problems are ubiquitous in today's society. A July 1993 report on the cost of migraines notes that over 11

million Americans have migraines, which cause moderate to severe disability (7). The annual lost productivity costs due to migraines are estimated at \$ 6,864 per employed male and \$ 3,600 per employed female (8). A study of migraine sufferers showed 48 % had one or more ER visits, with 15 % having five or more ER visits in one year (9). Our study suggests that the Feldenkrais Method may favourably influence these numbers since two patients in our study group had migraines.

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