PRACTICE

Case Study: The Use of Massage Therapy to Relieve Chronic Low-Back Pain

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Objectives: **To study the effects of massage on chronic low-back pain in a patient with four different diagnoses: osteoarthritis, scoliosis, spinal stenosis, and degenerative disc disease. The patient's goal was to cut down on the amount of pain medication he takes.**

Methods: **A 63-year-old man with chronic back pain received four massages across a twenty-day period. Progress was recorded using the Oswestry Low Back Pain Scale, as he self-reported on levels of pain and interference with his activities of daily living.**

Results: **Improvement was noted in 9 out of 10 measurements of self-reported pain and activities of daily living, with the only exception being his ability to lift heavy objects, which remained unchanged. The most dramatic differences were improvements in his ability to walk, and in the changing degrees of pain. The client also self-reported being able to decrease his pain medication and the ability to ride his bicycle for the first time in years.**

Conclusions: **Massage therapy is a promising treatment for chronic low-back pain for patients who may have multiple pathologies, any one of which could be responsible for the condition. Further study is encouraged to determine the efficacy of massage therapy as a readily accessible, lower-cost alternative to more invasive therapies and as an adjunct to regular medical care, when appropriate.**

KEY WORDS: back pain; osteoarthritis; scoliosis; stenosis; degenerative disc disease

INTRODUCTION

A 63-year old male former construction worker was referred for massage therapy for treatment of debilitating low-back pain. He had pain in all areas of the back; although he sometimes experienced cervical pain and/or thoracic pain, the majority of pain was in the lumbar area. His objective was to reduce pain medication (Percocet), prescribed at 7.5 mg 4 times daily; he stated that it made him feel lethargic and disoriented. The subject was chosen based on his interesting condition of having multiple diagnoses, any one of which could have been responsible for his low-back pain: osteoarthritis, scoliosis, spinal stenosis, and degenerative disc disease. He was also diagnosed with hypertension, controlled with medication and not relevant to this study.

Normal medical treatment protocols for these conditions include pain medication and muscle relaxants, anti-inflammatory drugs, physical therapy and, in some cases, surgery. It is estimated that 80% of adults experience back pain at during their lifetimes. It is the most common cause of job-related disability and a leading contributor to missed work days.[1] Back and spine problems are the second most common cause of disability among US adults.[2] Older adults and poorer adults are more likely to have back pain than other groups.[3] Back pain is a condition in which the sufferer self-limits, deciding what activities they are and are not able to do.

A 2010 study published in *Complementary Therapies in Medicine* states a problem frequently encountered in the massage profession: doctors want an evidence base for interventions, while massage therapists perceive patient reports of benefitting as evidence.[4] A 2012 study on the development and validations of client expectations noted that clients tend to think positively of massage and their massage therapists, and that client expectations contribute to positive changes in pain and serenity.[5] Massage therapists should remember that people who have a positive outlook on their health may possibly still be suffering from an undiagnosed condition causing their pain.

A similar 2010 study by Furlan et al.[6] reviewed efficacy, cost-effectiveness, and harms of acupuncture, spinal manipulation, mobilization, and massage in the management of back, neck, and/or thoracic pain. Massage was found to be superior to placebo treatment or no treatment only among participants with acute/subacute low-back pain, but was found to be significantly better than physical therapy in improving back pain.

Zheng et al.[7] compared the use of lumbar tender point deep-tissue massage, with and without traction, on 64 subjects with chronic low-back pain, concluding massage and lumbar traction produced better improvement in the pressure pain threshold, muscle hardness, and pain than lumbar traction alone. Studies integrating massage with other treatments are becoming more common, as medical professionals are

becoming more willing to include massage in their treatment protocols.

A 2011 study of 401 subjects published in the *Annals of Internal Medicine* concluded that massage may be effective for treatment of low-back pain, with benefits lasting at least six months after receiving weekly massage for ten weeks.[8] Outcomes were compared for patients receiving relaxation massage, patients receiving structural massage, and patients receiving the commonly prescribed protocol of physical therapy and pain medication. Both types of massage were found to be more effective than the usual protocol, with no clinical meaningful difference between the two types of massage.

The research question for this case study was whether a subject with chronic pain who has been diagnosed with so many different back pathologies could be helped by massage. The positive results achieved, and the articles cited, demonstrate that massage may help those with chronic low-back pain and multiple diagnoses of pain-causing conditions.

METHODS

The practitioner works at a multiprofessional natural health clinic. She is licensed as an LMTB in North Carolina, and has additional training in various modalities of massage therapy and movement education.

The referring physician had systematically assessed the subject's condition, including physical examination as well as MRI. Usual tools for assessing subjects presenting with low-back pain include physical examination, palpation, observation of gait and posture, the use of orthopedic tests, and radiography. The subject stated that his back pain started when he was about 35 years of age; that he tried for years to ignore it and kept on working but, as he aged, it became more debilitating. By age 50, he was down to working 2 to 3 hours per day (self-employed in construction), and he applied for disability in 2006. During the last year before going on disability, his physician had prescribed physical therapy. The subject stated that the physical therapy primarily consisted of lying flat on a table and raising his legs one at a time, which he felt caused him further pain. He estimated that he attended less than a dozen sessions over a period of a couple of months. At the initial massage therapy session, the subject indicated on the Oswestry Disability Index that his pain level was 5, and that it varied anywhere from mild to debilitating, depending on his activities. He mentioned that the Index offered answers that did not exactly describe his case and made additional comments on it. He stated his pain and stiffness seem worse during cold weather, and attributed that to his being more active outdoors in warmer months. If he skipped his morning medication, by noon his pain level was at 7–8 (his statement; the ODI stops at 5 for maximum pain). He could only sleep comfortably on his side, waking whenever he turned over, although he stated falling back to sleep relatively easily. He could not sit for more than a half hour without having to stand, and could not stand for longer than 10 to 15 minutes without his pain increasing. He reported frequently getting up and down. He estimated that he could not walk more than a quarter of a mile without debilitating pain. He reported sitting down to put his pants on and being unable to lift over 20 lbs. One hour in a car sent his pain level to 7–8 which restricted many activities and social life for two years prior to the massage intervention. The subject's goal was to become more pain-free and less dependent on pain medication. He would like to increase strength and flexibility; he believed he could be more physically active if he felt better. He was on Percocet, prescribed 4X per day, but stated he would like to get by with three tablets per day, and would like to reach the point of not needing it at all.

Based on the literature review supporting that both relaxation massage and deeper work are beneficial to low-back pain, the therapy chosen was Swedish massage from the cervical to the lumbar area, followed by deep myofascial release strokes and the use of muscle stripping. Swedish full-body massage was performed first with the intent of relaxing the subject and warming his muscles to receive deeper specific work in his lower back and gluteal areas. As he was in constant pain prior to receiving massage, it was important to me not to cause him any further discomfort. After the initial focus on his entire back and gluteal muscles, the same techniques were performed on his legs, as he stated his posture had changed so much over the years; I believed it was best to work his lower extremities with the intention to support the work on his lower back.

The subject completed an Oswestry Disability Index, also known as the Oswestry Low Back Pain Disability Questionnaire, prior to the first session, and following the fourth session. The questionnaire has been in use since 1980; it is one of the most commonly recommended condition-specific outcome measures for spinal disorders. It is a self-reporting measure of the pain occurring during 10 different activities of daily living, with scores ranging from 0 (the least amount of pain) to 5 (the most amount of pain).[9] The subject additionally made subjective statements on decreased pain levels and decreased need for medication, and positive effects on activities of daily living after each session.

The patient consented to an anonymous reporting of this case. This report has been prepared using the "Adaptation of the CARE Guidelines for Therapeutic Massage and Bodywork Publications".[10]

Treatment Plan

Finances necessitated a treatment plan that the subject could afford: 60 minutes of massage once

per week for six weeks and then reevaluation, in the hope that he would be able to receive regular maintenance care thereafter. The subject is dependent on disability income and was unable to commit to more frequent visits. Techniques were chosen based on my 14 years of experience in working with clients who are in pain, and the research reviewed that supports the use of massage therapy.

RESULTS

The question being examined was: Did the subject's pain decrease across the treatment period? Table 1, the scores from the Oswestry Disability Index at the first and last (fourth) sessions, showed a 22% overall reduction of the ODI score (reduction from severe disability category (41–60%) to moderate disability category (21–40%),[9] a clinically relevant change for this patient. The subject reported feeling so much better that we mutually agreed to end the study at four sessions instead of the six originally discussed in the treatment plan. This was because the subject's reported pain was at zero after the fourth session.

The subject stated feeling optimistic about progress after the first massage, although he felt sore for a couple of days. He stated feeling less stiff in the mornings. By his third appointment, he was thrilled at the improvement in his back pain, and stated that his injured shoulder also felt more flexible and less painful when moving his arm. He reported being able to stretch out his medication doses over longer periods, cutting out at least one of the doses daily.

He stated feeling so much better a couple of days after the third session, he rode his bicycle for the first time in several years and had ridden it daily for short rides the four days immediately prior to the fourth session. He reported his shoulder had continued to feel better and being able to raise his arm over his head without feeling any pain, which he had not been able to do since injuring it in 2010. He related the pain that had bothered him the most at the beginning, in his lower back at the sacral area and left gluteus, was gone altogether.

At the first maintenance visit, the subject reported having had a good month with minimal discomfort. He continued alternating a lot between sitting and standing, but stated that it is a habit he had for so many years, that he may be doing it almost automatically instead of because of actually being in pain. He stated having ridden his bicycle for short rides most days. He reported taking two Percocet per day, with occasional days of feeling so well he took only one. He seemed to be reclaiming his life and enjoying the increased activity. (Note: The subject did not follow up with his physician following treatment. He is treated at the V.A. and sometimes waits months for an appointment.)

Table 1. Summary of Oswestry Disability Index Scores Comparing Category and Total Score Values from First and Last Visits

Date of ODI	*11/03/2012*	*11/23/2012*
Pain Intensity	2	1
Personal Care	3	2
Lifting	4	4
Walking	4	1
Sitting	3	2
Standing	4	3
Sleeping	2	1
Social Life	3	2
Traveling	2	1
Disability Index Score	60%	38%

DISCUSSION

The subject reported more vitality in general since reducing his pain medication, which he had stated in the initial interview left him feeling lethargic and disoriented. His posture and gait showed no noticeable changes, but he reported feeling more at ease performing activities of daily living, and after years of pain and limited abilities, being grateful to find help. His ability to sit and stand more comfortably for longer periods of time increased, whereas he formerly got up and down frequently because of discomfort if he stayed too long in either position. No specific measures of strength were done during the study, and he still does not try to do any lifting of heavy objects. Although he is not 100% pain free, and will probably never be due to all the diagnosed problems he has, his increase in feeling better and his decrease in having to be so heavily medicated improved his outlook and his quality of life.

It is not unusual to get good results from just a few sessions; there are studies demonstrating that only a massage or two produced positive results. Different clients experience different results because many factors affect every individual: cause of dysfunction, duration, degree of pain and disability, psychological effects, and even how the condition has affected relationships with friends and family members. As with all studies based on self-reporting instead of controlled scientific observation, it is impossible to definitely attribute improvement to true effect, placebo effect, or both.

CONCLUSION

Massage is noninvasive, generally available, can produce timely results, and is more cost-effective than most other treatments for chronic low-back pain. It

is likely that, as more research validates the efficacy of massage therapy, more primary care physicians will be willing to integrate massage therapy into treatment protocols and refer patients to licensed massage therapists.

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CONFLICT OF INTEREST NOTIFICATION

The author declares there are no conflicts of interest.

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