The Effectiveness of Chiropractic Care

A substantial number of systematic reviews of literature and meta-analyses\(^2\) have been conducted recently concerning efficacy, patient satisfaction, and cost-effectiveness of chiropractic care. The literature is consistent in reporting substantial evidence that chiropractic treatment is effective for both acute and chronic low-back and neck conditions (Bronfort 1999; Van Tulder, Koes, and Bouter 1997; Aker et al. 1996; Hurwitz et al. 1996; Shekelle et al. 1992; Anderson et al. 1992; DiFabio 1992; Ottenbacher et al. 1985). Many other studies reported findings indicating the effectiveness of chiropractic care for conditions other than low-back and neck pain.

\(^2\) A meta-analysis is a research approach which combines outcomes and draws conclusions from many studies focused on common areas.

Acute Low-Back Pain

- U.S. Government Agency Report. In 1994, the Agency for Health Care Policy and Research published Clinical Practice Guideline 14-Acute Low Back Problems in Adults (Bigos et al. 1994). The guideline defined acute low-back pain, evaluated various treatments, and made recommendations concerning the efficacy of those treatments. According to the Guideline, spinal manipulation is one of the most safe and effective treatments for most cases of acute low-back pain. Regarding the guideline, the following editorial comments appeared in the Annals of Internal Medicine: "The Agency for Health Care Policy and Research (AHCPR) recently made history when it concluded that ... spinal manipulation hastens recovery from acute low back pain and recommended that this therapy be used in combination with or as an alternative to nonsteroidal antiinflammatory drugs... Perhaps most significantly, the guidelines state that... spinal manipulation offers both pain relief and functional improvement" (Micozzi 1998, 65).

- Shekelle et al. (1992): doctors of medicine and doctors of chiropractic from RAND, UCLA Schools of Medicine and Public Health, and other research organizations, conducted a literature review of 25 controlled trials and a meta-analysis of nine studies addressing chiropractic treatment of low-back pain. The literature review was published in the Annals of Internal Medicine and concluded, "spinal manipulation hastens recovery from acute uncomplicated low-back pain" (594).
Chronic Low-Back Pain

- Van Tulder, Koes, and Bouter (1997), researchers in the Netherlands funded by the Dutch Health Insurance Board, retrieved and evaluated evidence from 48 randomized controlled trials conducted worldwide that addressed the treatment of acute and chronic low-back pain. Researchers found "strong evidence" for the effectiveness of spinal manipulation in the treatment of chronic low-back pain.

General Low-Back Pain

- Bronfort (1999) conducted a systematic review of literature concerning the efficacy of chiropractic treatment of low-back pain. The author found evidence "of short-term efficacy for SMT [spinal manipulative therapy] in the treatment of acute LBP [low-back pain]" (107). Additionally, the author found a combination of spinal manipulation and mobilization to be effective for chronic low-back pain "compared with placebo and commonly used therapies such as general medical practitioner management" (98).

- In a study reported in 1992, Anderson et al. conducted a meta-analysis of twenty-three randomized controlled clinical trials of the effectiveness of spinal manipulation in the treatment of back pain. The researchers stated, "the trend for spinal manipulation to produce better results than any form of treatment to which it was compared was consistent and strong" (193). For 86% of the outcomes, spinal manipulation was more effective than any other treatment.

- In a study conducted for the Ontario Ministry of Health, Manga et al. (1993) reported that spinal manipulation is the most effective treatment for low-back pain and that spinal manipulation is "safer than medical management of low-back pain" (11).

- Following a 1993 study, researchers Cassidy, Thiel, and Kirkaldy-Willis of the Back Pain Clinic at the Royal University Hospital in Saskatchewan concluded that "the treatment of lumbar intervertebral disk herniation by side posture manipulation is both safe and effective" (102).

- A study conducted by T.W. Meade, a medical doctor, and reported in the British Medical Journal concluded, after two years of patient monitoring, that "for patients with low-back pain in whom manipulation is not contraindicated, chiropractic almost certainly confers worthwhile, long-term benefit in comparison with hospital outpatient management" (Meade 1990, 1431).
A 1988 study of 10,652 Florida workers' compensation cases was conducted by Wolk and reported by the Foundation for Chiropractic Education and Research. According to Wolk, back injury patients treated by chiropractors versus medical doctors or osteopaths were less likely to develop compensable injuries (injuries resulting in time lost from work and therefore requiring compensation) and less likely to require hospitalization. The author explained that chiropractors are more effective in treating low-back injuries because "chiropractic treatment, in providing more services to the patient at the outset of injury, may produce more immediate therapeutic results and may reduce the amount of time lost from work" (56).

Neck Pain

- Hurwitz et al. (1996), a doctor of medicine and doctors of chiropractic from RAND and several academic institutions, conducted a review of literature on treatments for neck pain. The authors found manipulation to be more effective than mobilization or physical therapy in treating some subacute or chronic neck pain and noted that "all 3 treatments are probably superior to usual medical care" (1755).
- Doctors of medicine and other professionals from the Netherlands conducted two randomized clinical trials comparing the outcomes of various treatments of chronic back and neck complaints. Spinal manipulative therapy was compared to physiotherapy, treatment by a general practitioner, and a placebo. The authors found faster and greater improvement in the spinal manipulation groups (Koes et al. 1992; Koes et al. 1992a).
- Several studies (Howe, Newcombe, and Wade 1983; Verhoef, Page, & Waddell 1997) have found spinal manipulation to improve neck mobility and decrease neck pain. As Verhoef, Page, and Waddell (1997) concluded, "patients suffering from back and/or neck complaints experience chiropractic care as an effective means of resolving or ameliorating pain and functional impairments" (240).

Headache Pain

- A randomized controlled trial reported by medical doctors and doctors of chiropractic in Denmark found manipulation to have "a significant positive effect" on intensity and duration of cervicogenic headaches compared to "soft-tissue" therapy (Nilsson, Christensen, and Hartrigsen 1997).
• Boline et al. (1995) conducted a study comparing manipulation to pain medication (amitriptyline) in the treatment of tension headaches. The authors found that pain medication had short-term effectiveness—although with side effects—while "four weeks after the end of intervention, the spinal manipulation group showed a 32% reduction in headache intensity, 42% [reduction] in headache frequency, 30% [reduction] in over-the-counter medication usage, and a 16% improvement in functional health status... The amitriptyline therapy group showed no improvement or slight worsening" (150).

• In 1998, Hack et al. reported a new anatomical discovery: bridges of connective tissue establish a direct connection between neck muscles and the protective covering of the brain and spinal cord. This is a probable cause-and-effect connection between headaches and cervical spine dysfunction. The authors hypothesized that chiropractic treatment of muscle tension headaches is effective because it can "decrease muscle tension and thereby reduce or eliminate pain by reducing the potential forces exerted on the dura via the muscle-dura connection" (22).

• In 1998, Mitchell, Humphreys, and O'Sullivan described previously unreported ligaments of the neck attached to the base of the skull. This discovery has implications for manual therapy and the treatment of cervicogenic headaches caused by damaged ligaments, mainly in cases of moderate to severe whiplash.

**Carpal Tunnel Syndrome**

• Davis et al. (1998) compared chiropractic treatment of carpal tunnel syndrome (CTS) to nonsurgical medical treatment. The chiropractic group used manipulation, ultrasound, and wrist supports while the medical group used wrist supports and ibuprofen. While both treatment groups improved significantly, the authors noted that chiropractic represents an alternative conservative treatment for CTS, especially for patients "who are unable to tolerate ibuprofen" (322).

**Fibromyalgia**

• Blunt, Rajwani, and Guerriero (1997) concluded that chiropractic treatment of fibromyalgia resulted in clinically significant improvement in flexibility and pain levels. The authors recommended that chiropractic treatment be included in a multidisciplinary treatment regimen for fibromyalgia.
Infantile Colic

- Klougart, Nilsson, and Jacobsen (1989) reported a prospective study of 316 cases of infantile colic. The authors found that 94% of the infants appeared to be helped by chiropractic treatment "within 14 days from the start of treatment" (287). The infants included in the study had moderate to severe infantile colic and were otherwise healthy, averaged two weeks of age at the outset of colic, and averaged 5.7 weeks of age at the start of treatment. The authors found that chiropractic treatment resulted in "both a reduction of the daily length of the colic periods and a reduction of the number of colic periods per day" (287). Because recovery began between 5.7 and 7.7 weeks of age, the authors maintained that this provided substantial evidence that the improvement could not be attributed strictly to "natural cessation of colic symptoms" (286).

- In a 1999 study similar to the 1989 colic study noted above, Wiberg, Nordsteen, and Nilsson found that "spinal manipulation has a positive short-term effect on infantile colic" (520). Researchers randomly placed otherwise healthy, colicky infants into one of two treatment groups: chiropractic treatment and dimethicone medication. Parents kept a diary of symptoms and behaviors before the trial to establish baseline data and continued to keep a diary of symptoms during the trial. Both groups received two weeks of treatment. The infants in the chiropractic group exhibited "a reduction of 67% on day 12" of daily hours with colic, which was nearly identical to the results of the first study. The "dimethicone group only had a reduction in daily hours with colic of 38% by day 12" (520).

The dimethicone group had several subjects drop out of the study because their symptoms worsened. These subjects and their corresponding data were excluded from the results, creating better overall improvement statistics for the dimethicone group than actually occurred. Yet, the chiropractic subjects still exhibited twice as much improvement at the end of the trials when compared to the dimethicone group.

- The authors noted that "[s]pinal manipulation is normally used in the treatment of musculoskeletal disorders, and the results of this trial leave open 2 possible interpretations. Either spinal manipulation is effective in the treatment of the visceral disorder infantile colic or infantile colic is, in fact, a musculoskeletal disorder, and not, as normally assumed, visceral" (520).
Rehabilitation

- In an opinion article by respected researchers on the use of chiropractic manipulation in lumbar rehabilitation, Triano, McGregor, and Skogsbergh (1997) stated that the symptom relief and improved flexibility provided by chiropractic care make it a "valuable tool," assisting and easing patients into necessary rehabilitative programs. According to the authors, not only can chiropractic treatment relieve symptoms that interrupt therapy, but it restores patients' confidence in movement, discourages chronicity, and encourages patients to continue rehabilitation.

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