

Spinal manipulation: How did it get so accepted?

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Much to the chagrin of many medical specialists and to the amazement of its practitioners, spinal manipulation has moved from the fringes of perceived quackery to an accepted and widely utilized treatment modality over the past decade. Where in the past it was impossible to obtain objective information on the topic, 1995 saw papers on spinal manipulation published in *JAMA*, *New England Journal of Medicine*, *Spine*, *Neurology* and multiple other prestigious journals. Spinal manipulation is an included treatment modality under Medicare, virtually all workers' compensation systems and most private and personal insurance policies. It is increasingly included in HMO and other managed care benefits including such major players as FHP and Kaiser. In 1995, the Department of Defense initiated a demonstration project to offer chiropractic services to military personnel. Furthermore, government commissions and agencies in the United States (Agency for Health Care Policy and Research Low Back Pain Guideline Panel), Canada (Manga Commission in Ontario, Quebec Commission on Whiplash-Related Disorders), Britain (The Clinical Standards Advisory Group for the National Health Services) and New Zealand (Commission on Chiropractic) have all independently presented positive statements on the utilization of spinal manipulation and/or chiropractic care after review of the scientific and clinical literature.

To explain this remarkable turnabout in the perceived value of spinal manipulation, one must review the scientific and clinical literature in detail. Spinal manipulation is a primary example of how outcome-based research can overcome dogma and opinion and lead to the legitimization of a treatment modality. It serves as an example for other clinicians attempting to get their favorite treatment approach accepted. A number of outcomes have been studied following manipulation.

Relief of acute pain

More than 30 randomized controlled clinical trials of various qualities study the effectiveness of manipulation for the relief of spinal pain. The majority of these have looked at acute low back pain. These studies have been subjected to a number of meta-analyses consistently demonstrating a beneficial effect of manipulation on the duration and severity of low back pain. Meta-analysis performed by Anderson et al, for example, led to the conclusion that the average patient receiving spinal manipulation is better off than 54% to 85% of the patients receiving a comparison treatment. Recent studies in Britain by Meade et al went so far as to suggest that chiropractic care may be more effective than hospital-based physical therapy. Additional studies

are now being published on the effectiveness of manipulation on chronic low back pain, cervical pain and headaches, although these areas have been studied to a much lesser extent than acute low back pain.

Physical outcome measures

A number of objective outcome measures have been looked at following manipulation. Rasmussen found significant improvement in forward flexion while Fisk reported increased straight leg raising following manipulation. Radiographic studies in the lumbar spine have been unsuccessful in showing changes following manipulation, but one or two studies suggest there may be increased range of motion in the cervical spine following manipulation. A number of studies have shown decreased muscle spasm following manipulation, but these have not been controlled. Vernon et al demonstrated a 140% change in the level of paraspinal cutaneous pain tolerance following manipulation when compared to controls. This has led to studies on changes in endorphin levels and beta-lipoprotein in patients undergoing manipulation in an attempt to explain the pain-relieving qualities of manipulation.

Cost effectiveness

In the era of managed care, the importance of cost as an outcome measure has been increasingly emphasized. There are 17 studies looking at the relative costs of chiropractic treatment in patients receiving workers' compensation. Fourteen of the studies demonstrated a lower cost compared to traditional care. A recent report on relative costs by Carey et al in the private sector suggests that chiropractic and orthopedic management of low back pain are equivalent, but more expensive than primary care providers. The number of office visits, however, is consistently higher for chiropractic patients who are generally also seen for longer periods of time.

Work time loss

There are several studies showing that patients receiving spinal manipulation have an overall reduction in work time loss compared to other forms of treatment. With one exception, the literature reports reduction in disability days and shortened periods of symptoms in 17 studies comparing chiropractic or manipulation to other treatment modalities.

Patient satisfaction

There are now five prospective studies looking at the satisfaction scores of patients seeking manipulative therapy or chiropractic care when compared to various forms of medical care. Without exception these studies have demonstrated much higher patient satisfaction scores compared to those patients receiving other forms of treatment. The study by Pope et al demonstrated increasing satisfaction score the longer the patient continued to received manipulation. It may well be that the satisfaction score is reflective of the multiple office visits.

Complications

Until recently virtually no information existed beyond an occasional anecdotal report of serious complications following spinal manipulation. With increasing acceptance of this treatment modality, studies are now underway to look at the negative side effects and complication rates. Minor and temporary changes in pain symptomatology are not unusual as a reaction to manipulation. Shekelle has reported that the more severe complications of cauda equina syndrome following lumbar manipulation is 1 in 300,000,000 and the likelihood of vertebral artery dissection following cervical manipulation is generally set at 1 in 500,000 to 1 in 3,000,000. These complication rates are considerably less than many treatment modalities for spinal pain management.

Future considerations

Acceptance of a treatment modality poses increasing and new responsibilities on its providers. Chiropractors and other practitioners of manipulation are increasingly being forced to investigate or reject claims of success in conditions from which there are no satisfactory outcome studies. There are also increasing demands to establish formal quality assurance and practice parameters, and specifically to avoid abuses associated with prolonged and excessive care. These latter issues are being addressed in part by studies through the Rand Corporation and the so-called Mercy Conference on Chiropractic Quality Assurance & Practice Parameters. There are still multiple questions regarding manipulation including explanations on the mechanism of action of manipulation, optimal number of treatments for each condition being treated, its effectiveness in conditions other than spinal pain and further understanding of the complication rates. In this regard, however, spinal manipulation is not much different from other accepted treatment modalities and is considerably ahead of the majority of treatment methods currently being offered for the management of spinal pain.

For more information:

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