



## Review Article

### CHIROPRACTIC CARE FOR THE ORAL HEALTH PROFESSIONAL

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#### ABSTRACT

The major disability among the various professionals worldwide is musculoskeletal disorders. They impose a burden to the community in both direct costs to health care and indirect costs through reduced work efficiency and productivity. In India, according to epidemiological studies, the community based prevalence of musculoskeletal disorders is about 20% and occupation specific prevalence is as high as 90%. Among the victims, the prevalence of musculoskeletal disorders among Dental surgeons is about 64%, out of which 80% had low back pain at some point of time in their life. Despite the burden, musculoskeletal disorders have not been considered in National health programmes. Bearing in mind musculoskeletal disorder as a public health burden, engaging Chiropractic- a complementary type of medicine in screening and as a part of primary prevention will be a great effort in reducing the future burden to the community.

**KEYWORDS:** Chiropractic, Public health, Dentistry

#### INTRODUCTION

Musculoskeletal disorders are the second largest disability worldwide, with low back pain being single leading cause of disability globally. They are not just the conditions of older ages; they are relevant across the life-course. The greatest proportion of persistent pain conditions is accounted for by musculoskeletal conditions, which are very commonly linked with depression and occupation related health hazard.<sup>[1]</sup>

The commonest health hazard to Dental professionals is musculoskeletal disorder.<sup>[2-5]</sup> This non communicable disorder affects the quality of life because it can be a source of long term morbidity which in turn causes social and economic burden. The prevention of such disorders can improve the Dentist's work efficiency and improve their quality of life, reduce expenditure on health care and decrease morbidity and mortality.<sup>[6]</sup> Various other professions leading to musculoskeletal disorders are physicians<sup>[7]</sup>, surgeons<sup>[7,8]</sup>, nurses<sup>[9]</sup>, school teachers<sup>[10]</sup>, Dental assistants<sup>[5]</sup>, software professionals<sup>[11]</sup>, violinists<sup>[12]</sup>, drivers<sup>[13]</sup>. Prevention of any disease can be done at three stages as primary, secondary and tertiary prevention. One complementary medicine which deals with the primary prevention by manipulative technique is Chiropractic.

Chiropractic is a type of complementary medicine mostly concerned with the diagnosis and

treatment of mechanical disorders of the musculoskeletal system, especially the spine. *Chiro* (hand) + *practos* (practice) literally means "done by hand".<sup>[14]</sup>

Chiropractic is one of the most popularly used forms of manual therapy. It is now practised worldwide and regulated by law in some 40 national jurisdictions. As a health care service, chiropractic offers a conservative management approach and although it requires skilled practitioners, it does not always need auxiliary staff and therefore generates minimal add on costs. Therefore, one of the benefits of chiropractic may be that it offers potential for cost-effective management of neuro musculoskeletal disorders.<sup>[15]</sup>

According to WHO definition, Chiropractic is "A health care profession concerned with the diagnosis, treatment and prevention of disorders of the neuro musculoskeletal system, and effects of these disorders on general health". There is an emphasis on manual techniques, including joint manipulation and/or adjustment with a specific focus on subluxation.<sup>[15]</sup>

#### History of Chiropractic

Although spinal manipulation dates back to Hippocrates and ancient Greek physicians, the discovery of chiropractic is attributed to Daniel David

Palmer, a magnetic healer in the United States of America in 1895. He opened the first school for the training of chiropractors commencing in the United States of America in Davenport, Iowa in 1897.<sup>[15]</sup> He argued that all disease is caused by subluxated bones, which 95% of the time are spinal bones, and which disrupt the flow of innate intelligence. He did not subject his ideas to any form of research, but rather went directly to treating patients and to teaching his principles to the first generation of chiropractors.<sup>[16]</sup>

### Theory of chiropractic

The concept and principles that distinguish and differentiate the philosophy of chiropractic from other health care professions are of major significance to most chiropractors and strongly influence their attitude and approach towards health care. The philosophy of chiropractic is mainly vitalistic theory.<sup>[5]</sup> According to fundamentalist chiropractic vitalistic theory, spinal "subluxations" mechanically interfere with nerve flow (the "Innate Life Force"), weakening organs served by the nerves and making them more susceptible to disease. Thus:

- "Subluxations" are the primary "cause" of disease, and restoration of nerve flow is essential to healing.
- The "Innate" is said to represent 'Universal Intelligence' (God); the function of 'Innate Intelligence' (Soul, Spirit or Spark of Life) within each, which D.D. Palmer considered a minute segment of 'Universal.'
- The fundamental causes of interference to the planned expression of that Innate Intelligence are Mental, Chemical and/or Mechanical Stresses that create the structural distortions that interfere with nerve supply.

### Contemporary expressions of the Chiropractic paradigm<sup>[18]</sup>

Various authors have summarized a core chiropractic paradigm that includes the following:

1. The body is a self-regulating and self-healing organism.
2. The nervous system is the master system that regulates and controls all other organs and tissues and relates the individual to his/her environment.
3. Spinal biomechanical dysfunction in the form of vertebral subluxation complex may adversely affect the nervous system's ability to regulate function.
4. The central focus of the doctor of chiropractic is to correct, manage or minimize vertebral subluxation through the chiropractic spinal adjustment.

For many chiropractors, these four points constitute the foundation of traditional chiropractic, but also reflect elements compatible with broad-scope perspective that expands beyond these concepts in terms of scope of practice and patient assessment. Moreover, these elements convey this essence without metaphysical terminology. Chiropractors comfortable with the term innate intelligence will recognize this in the first component. Likewise, those chiropractors who prefer to think of self-regulation and healing in terms of homeostasis and normal physiological function are accommodated. Notably, the relationship between structure and function as mediated by the nervous system is given prominence here. This is the essence, the distinctive feature, of chiropractic thought and practice.<sup>[18]</sup>

### Models of Chiropractic Care

The current model of chiropractic health care is holistic with a focus on the evaluation and conservative treatment of musculoskeletal disorders. Although there is significant variation in scope of practice from state to state, nearly all chiropractors use a variety of manual therapies with an emphasis on spinal and extremity joint manipulative procedures.

For basic musculoskeletal injuries and postural syndromes, chiropractors use 4 broad categories of therapeutic interventions: (a) joint manipulation and mobilization, (b) soft tissue manipulation and massage, (c) exercise and physical rehabilitation prescription, and (d) home care and activity modification advice. In addition, nutritional and dietary counselling, physical therapy modalities (eg. heat, ice, ultrasound, electromodalities), and taping/bracing are also used as adjunct procedures.<sup>[19]</sup>

### Applications of Chiropractic

Chiropractors are natural, drugless approach helping the patients in achieving their health goals. Majority of the benefits are due to patients receiving specific chiropractic adjustments. They work by placing the body in the proper position that allows the body to heal by itself. They can also reduce stress placed on immune system, freeing up energy to be used towards disease prevention and maintaining homeostasis. Chiropractic care aims to address the whole body, enhancing patient's ability to think, move and perform.

On comparison of chiropractic care and physical therapy, both the treatment modalities help patients achieve a better quality of life, but their focus of services is different from each other. Chiropractic care isn't a "one treatment for all"

formula. It applies different techniques and tools for varying ailments.

Spinal manipulation therapy is the primary treatment type used by chiropractors. They are directed towards any part of the spine-cervical, thoracic, lumbar, sacral or costovertebral joints. This involves the movement of the spinal joints near the end of their normal range of motion. This movement is achieved by providing a high-speed thrust to the joint, over a short distance. Often the manipulation is accompanied by a "cracking sound".

According to a systematic review<sup>[20]</sup>, the strongest evidence for the effectiveness is for treatment of chronic low back pain which was found to be superior to physiotherapy treatment but less effective than pharmaceutical treatment and other therapies. In regard with sports injuries prevention and treatment for lower limb muscle strain and lateral epicondylitis chiropractic was found to be more effective than conventional treatments. In management of neck pain they are equally effective with exercise therapy and physiotherapy. Little evidence supports the use of positive role in improving subjective measures of asthma attacks, use of medication, quality of life and patient reported changes in asthma symptoms.<sup>[20]</sup>

In regard to Dentistry, a study in Canadian community population shows that chiropractic care reduces pain and disability as well as improves general health status in patients with musculoskeletal conditions.<sup>[21]</sup>

### **Inter Professional Relations**

Historically, relations among doctors of chiropractic and doctors of medicine have been marked by acrimony and competition, although this has begun to diminish in recent years. Having been disparaged by most medical physicians since the profession's inception, many chiropractors have understandably been cautious in seeking alliances with medical physicians or integration into the mainstream medical delivery system.

As a profession matures, its relations with other professions must mature as well. Healthy inter professional relations must be based on mutual respect and understanding. A key question for chiropractic's future is how can chiropractors be integrated into the mainstream health care delivery system so that chiropractic services are readily available to all who can benefit from them? And, of equal significance, how can such integration be achieved without diluting the uniqueness of chiropractic to the point where it is unrecognizable? There is probably no single answer to these questions. The future shape of the profession will likely be worked out, step by step, in numerous pilot

projects in a wide range of settings- in private chiropractic and medical practices where inter professional referral in both directions becomes the norm. Inevitably, as new relationships are developed and tested, there will be both successes and difficulties. Creating positive, sustainable inter professional relations depends on willingness by all involved parties to build on their successes and learn from their mistakes.<sup>[18]</sup>

### **Complications**

Chiropractic spinal manipulation therapy is regarded as relatively safe, effective and conservative means of providing pain relief and structural improvement of biomechanical problems of the spine. As with all therapeutic interventions, complications can arise. Serious neurological complications and vascular accidents have been reported, although both are rare. Some adverse effects include stroke, disk herniation, cauda equine syndrome (a serious neurologic condition affecting the lower spinal cord). Vascular accidents are responsible for the major criticism of spinal manipulative therapy is primarily due to dissection of the vertebral artery.<sup>[22]</sup>

### **CONCLUSION**

The impact of chiropractic care is seen in improvement of chronic low back pain, some upper extremity conditions including shoulder and neck trigger points, neck pain and sport injuries. Therefore as a primary prevention, Dental Surgeons can be benefited by strengthening their musculoskeletal system through chiropractic care leading to improved quality of life which will also further maintain their work efficiency. However, unless the chiropractic proves the theory or abandons the idea that adjusting the spine will restore and maintain health, it will remain controversial and some aspects will still be a threat to public health.<sup>[23]</sup>

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