

USING NECK DISABILITY INDEX, NUMERICAL PAIN RATING SCALE AND COMPUTERIZED DYNAMIC POSTUROGRAPHY TO ASSESS CORTICAL INTEGRATIVE THERAPY IN PRACTICE BASED CLINICAL RESEARCH

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ABSTRACT

In this retrospective study of adult patient's charts from an outpatient clinical practice, three tools, Neck Disability Index (NDI), Numerical Pain Rating Scale (NPRS), and Computerized Dynamic Posturography (CDP), were investigated to evaluate how they are affected by demographics, anthropometry and clinical status, and if they can detect the effects of Cortical Integrative Therapy (PedroCIT®) received by these patients all affected by neck pain. The results show that they are robust metrics not affected by sex, age, payee's type, treatment duration, or comorbidities number. CDP is affected by the primary diagnosis (traumatic brain injury/concussion, vertigo/dizziness, migraine/headaches, or other), NDI and NPRS are not. Whereas NDI and NPRS could be used interchangeably as an overall measure of the pain the patient is experiencing, their results do not correlate in general with CDP, indicating the need to use both a subjective (NDI or NPRS) and an objective tool (CDP) as they capture different aspects: how the subject rates its ability to perform daily activities and how much pain it feels, and how the postural control system maintains balance. When considering the time constraint physicians often face when dealing with patients, this chart review points toward the possibility of using the simple NPRS as subjective measure of pain, and only one instead of several CDP tests to determine the pre-post effect of a therapy. Future studies evaluating PedroCIT® outcomes for specific diagnoses in larger populations, multiple location settings, and observation for longitudinal cohesion are needed before these metrics can be fully endorsed.

Keywords: Practice based clinical research, Cortical integrative therapy, Neck pain, Traumatic brain injury, Dizziness, Headache

INTRODUCTION

Neck pain is one of the most commonly reported clinical complaints [1-2]: it has an incidence of 3.6% [3] and together with low back pain is ranked the fourth leading cause of disability [4], comprising nearly 7% of all disabilities [5]. It can manifest in acute (sudden) [6] or chronic (persisting more than three months) [7] form. Its etiology can vary from muscle weakness, to wear of cervical spine, from mechanical injuries such as whiplash to compression of the spinal cord [8-9].

Independently on its etiology, neck pain can severely impact an individual's daily activities and productivity [10-11], with costly consequences for the individual and society in general, as neck pain often results in some form of disability claim [12-13].

Functional manifestations of neck pain include spasm, altered cervical biomechanics, changes in muscle recruitment patterns, central manifestations in the brain stem and cerebral cortex associated with