

Abstract:

Title:

Comparing Neurophysiological Methods to Functional Therapy in Treatment of Cerebral Palsy from Newborn to Adolescents

Investigative questions:

What are the scientifically proven advantages of Neurophysiological Methods and Functional therapy, respectively?

In what situations would one treatment approach be more beneficial than the others?

Background:

Cerebral palsy is the most prevalent of the chronic childhood motor disability disorders, with a prevalence of approximately 2 in every 1000 live born. Definitions and classifications have been varying for the last 150 years, leading to a great deal of confusion and controversy in this field of paediatric medicine, resulting in varying recommendations in terms of therapy. In complex cooperative therapy team is necessary in each individual, and in terms of physiotherapeutic treatment, two big and very distinct blocks of treatment philosophies are found, namely the Neurophysiologic Method and the Functional Therapy. Previously, no definite recommendations towards therapy has been provided, and many studies simply conclude that the field of cerebral palsy, despite centuries of attention, still lacks substantial parts of information to conclude with anything in particular. The purpose of this thesis is to evaluate and compare the Neurophysiological Methods to functional therapy in physiotherapeutic treatment of children with cerebral palsy.

Methods:

The thesis is a literary review, reviewing books, journals and articles retrieved in the period from autumn 2010 to spring 2012. Articles relating to the topic of the thesis have been searched for on the databases of PubMed, the Cochrane Library and BioMed Central.

Conclusion:

History has shown that any clear conclusions regarding the vast medical field of cerebral palsy has been hard to make. Even though this thesis also found that no overall recommendations were possible to extract to whether one approach served as more beneficial for the entire population of cerebral palsy, it serves to hypothesise several general guidelines, and offers recommendation for future research in the field.

Due to the nature of intervention, it is assumed that the Method of Reflex Locomotion by Vojta possesses clear advantages when treating preverbal children, children with cerebral palsy accompanied with learning disabilities (mental retardation, U.S. use) and with a high degree of motor impairment.

Bobath's approach were found to present good results in overall gross motor function, especially immediately after therapy intervention and particularly in shorter periods of high intensity treatment. The therapeutic window of improved bodily functions seen as an immediate result of Bobath therapy is believed to be an important factor that physiotherapists should take advantage of in planning treatment of children with cerebral palsy.

The group of functional therapy is demonstrating a good accomplishment of special functional goals. There consists conflicting evidence to whether achievements of these goals are beneficial towards attaining other, unpractised functional goals, despite the fact that an overall improvement of gross motor function is seen after intervention of functional therapy.

Major gaps are found in the contemporary research of cerebral palsy, and suggestions are made for further research. It is believed, based on findings in present research that no definite approach would benefit the whole population of children with cerebral palsy as a whole. The varying characterizations of the condition must be respected, and the individual child must be treated accordingly. It is also believed that no clear recommendations would be present even in the future, due to these factors. There is however an urgent need for future research in the field of cerebral palsy in order to optimize the current therapy regimen.

Keywords:

Cerebral Palsy, Treatment, Neurodevelopmental Therapy, Method of Reflex Locomotion by Vojta, Bobath Treatment, Functional Therapy