

Conflicts Between Evidence and Clinical Practice-current Scenario in Paediatric Neuro Rehabilitation

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Abstract

Any pediatric neurological condition is a multi-dimensional problem which needs a multi-dimensional treatment model. Though there are many treatment methods in Pediatric neuro rehabilitation, does it really serve the purpose?

This article tries to address three questions that are vital for pediatric neuro rehabilitation. First conflict, is Using of Randomized control trial's (RCT) appropriate in evaluating an intricate intervention such as rehabilitation of Cerebral Palsy (CP). Second conflict, Is using of phrases such as head control training, trunk control training, Upper Limb training, lower limb training correct in the current scenario of practice? The final conflict, does NDT really have an evidence in improving function in CP? There is a strong need to address all these questions to bring about a change and clarity in rehabilitating a child with CP. .

Keywords: Cerebral Palsy; Pediatric Neuro Rehabilitation; NDT; Evidence

Introduction

Pediatric neuro rehabilitation comprises of various approaches and techniques. The approaches and technique ranges from conventional techniques to more complex theories. the conventional techniques include muscle strengthening, passive stretching etc whereas complex approaches include motor learning program, neuro developmental therapy (NDT), task-oriented approach, constraint induced moment therapy (CIMT) etc. Though there are many treatment methods for cerebral palsy, does it really serve the purpose of Rehabilitation? Any pediatric neurological condition is a multi-dimensional problem which needs a multi-dimensional treatment model.

This article tries to address three questions that are vital for pediatric neuro rehabilitation. First, conflict in Using of Randomized control trial's (RCT) appropriate in evaluating an intricate intervention such as rehabilitation of Cerebral Palsy (CP). Second, conflict In using of phrases such as segmental control training (head control training, trunk control training, Upper Limb training, lower limb training correct in the current scenario of practice? The final, does NDT really have an evidence in improving function in CP? There is a strong need to address all these questions to bring about a change and clarity in rehabilitating a child with CP. By attesting

these questions, a balance can be brought about between the evidence and clinical practice in Rehabilitating a CP child.

First, Rehabilitation of CP requires an intricate intervention and it just cannot be used based upon a RCTs. In spite of the amount of criticism received by RCT, it still remains as "Gold standard" recommended as best practice. RCT can be suits the best for studies on intervention which is generalized, distinct, defined, unidimensional and should be highly controlled by the intervention protocol. But this RCT does not suit where the intervention should be individualized and multidimensional [1-4]. Applying RCTs for rehabilitation research based upon hierarchy of evidence will not produce reliable or precise results. An optimal research design for the approach must be selected based upon "Goodness of Fit" to the research population and research question, rather than selecting a design in the hierarchical level of evidence [5-7].

An isolated intervention or simply compiling the interventions based upon level of impairment will not be appropriate treatment for a CP child. Rather, a child with CP should be rehabilitated in relation of both quantity and quality of the movement or motor activities by concentrating more on improving functional activities or abilities in relation to his environment.

Second, rehabilitation should not concentrate on treating the upper limb, lower limb or trunk of the child with CP. This way of rehabilitation, treating child with CP as parts will not result in an effective rehabilitation. The model of treating a CP child as a whole i.e. based upon the functional requirement, must be emphasized. To put in better term, family centred care should be a major goal in paediatric rehabilitation [8]. Key concepts of family centred rehabilitation must be implemented in Pediatric rehabilitation. During the process of decision making, the family should be allowed to participate to find out the exact needs of the child from the perspective of the family. This decision-making process with participation of the family members must be implemented at the institutional level [9].

Despite the range of popularity for Neurodevelopmental therapy (NDT), a conflicting evidence for NDT still remains as an ineffective intervention. CIMT was found to have a moderate evidence in improving function especially in lower limb. Exercises was found to provide a moderate effect in task specific training and child-initiated movement [10]. A systematic review from Cochrane database found that effects of NDT in treating CP was unclear with very low evidence [11].

Rendering from evidence into clinical practice

As there is a wide variety of difference in practicing physical therapy among therapists, treatment methods, different regions and settings, this leads to insufficient evidence in physical therapy practice or there is a lack of success in incorporating the evidence. Even though, the balance between evidence and practice is being discussed more than a decade, a clear solution has not been evolved. The ultimate goal of a pediatric rehabilitation must be not only to obtain evidences from published articles but also to analyse whether it serves the purpose of rehabilitating the maximum function of a child with CP.

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