REVIEW OF RESEARCH
IMPACT FACTOR : 5.7631(UIF) UGC APPROVED JOURNAL NO. 48514 ISSN: 2249-894X
VOLUME - 8 | ISSUE - 4 | JANUARY - 2019

A STUDY ON EFFECTIVENESS OF DOMEN – DELACATO PATTERN OF MOVEMENT TO IMPROVE MOTOR DEVELOPMENT IN CHILDRENS WITH CEREBRAL PALSY

Senthilkumar S.
Associate Professor Saveetha College of physiotherapy,
Saveetha Institute of Medical and Technological sciences, Chennai.

ABSTRACT :

Objective: *This study was to determine to prove the effectiveness of Domen-Delecato pattern of movement to improve motor development of children with cerebral palsy.* ***Study Design:*** *Experimental study.* ***Methodology****: A convenience sampling of 30 children with cerebral palsy with the age group of 3 and half months to 7 years both genders was selected for this study. Their demographic profile and detailed medical history were collected through interviewing their parents from the physiotherapy treatment records. Samples were divided into two groups as Experimental group (B) and Control group (A). Group a received only passive Range of motion and Group B was received Domen-Delecato pattern with passive range of motion 3 months 5 days a week. Subjects were reassessed after 2months to measure the Motor development for the difference between pre and post test values.* ***Study Setup****: Saveetha medical college Hospital, Chennai.* ***Measurement Tools****: Alberta infant Motor scale.* ***Results:*** *The data obtained was tabulated and statistically analyzed. Pre and post intervention parametric statistical tests dependent t sample test and unpaired t test were used. The two-tailed P value is less than 0.0001 by conventional criteria; this difference is considered to be extremely statistically significant of Experimental group.* ***Conclusion****: Cerebral palsy is a non-progressive syndrome of posture and motor impairment and common cause of disability in childhood. The Domen-Delecato Pattern of movement was facilitated compensation adaptation and habituation and involves stimulating the sensory systems the central nervous system to reinterpret abnormal vestibular inputs as normal and regenerate or initiate new activity in the motor development of brain stem nuclei.*

KEYWORDS : *Cerebral palsy, Motor development, Domen-Delecato movement.*

INTRODUCTION

Cerebral palsy is a term used to describe a set of neuro brain damage that affects movements of the body. It is the most common form of childhood multiple disabilities. According to World Health Organization (WHO) estimation, 15-20% of the total physically handicapped children suffer from Cerebral Palsy, the estimated incidence is around 3/1000 live births; however, in India, there are approximately 33,000 people with cerebral palsy. The condition makes it hard to move certain parts of the body. An infant with cerebral palsy may have muscular and movement problems, because of hypo and hyper tonicity of the muscle. The cerebral palsy children mostly affected in the coordination and balance, cerebellar ataxia, in voluntary movements, or athetosis, hyper tonicity of muscles that contract abnormally, known as spastic paralysis, a limited range of movement, late achievement of developmental milestones such as crawling, walking, speaking, hearing and vision

problems, un controlling bladder and bowel movements, seizures, drooling, and feeding, sucking, and swallowing difficulties, being easily startled, Symptoms normally start to show during the first 3 years of life (Novella, 2009).The concept of patterning was invented by Glenn Doman and Delacato and is therefore often referred to as the Doman-Delacato technique.

This pattern of movement to stimulation is done through “patterning," in which the patient moves repeatedly in the manner of the current stage. In the "homolateral crawling" stage, for instance, infants crawl by turning their head to one side while flexing the arm and leg of that side and extending the arm and leg of the opposite side (Novella, 2008). This pattern of movement technique to improve motor development in children with cerebral palsy.

METHODOLOGY:

Objective: This study was to prove the effectiveness of Domen –Delecato pattern of movement to improve motor development of children with cerebral palsy. *Method:* Thirty subjects of cerebral palsy infants who attended an early intervention done by physiotherapist. The infants were solicited from pediatric physiotherapy unit from Saveetha medical college hospital department of physiotherapy. *Inclusion criteria:* cerebral palsy with delayed milestones, age group between 3 and half months to 7 years. *Exclusion criteria:* Hyper activity, severe spasticity, as worth scale of grade 4, hydrocephalus, epilepsy, medically ill children. Above the age group of 7years. exaggerated reflexes. *Materials*: Alberta infant motor scale, milestones chart. (i) Control Group A: Passive range of motion with postural support. (ii) Experimental Group B: Domen – Delecato pattern of movement with passive range of motion Testing was performed by physical therapist. *Procedure:* Brief formation was received from the child’s parent or guardian in order to provide the child’s ongoing therapy services. If the parent or Guardian agreed to have his or her child participate in the study a screening and child demographic questionnaire was administered. Application of Domen - Delacato method used to each delayed mile stones child. The Doman Delacato method uses techniques such as patterning, crawling, creeping, receptive stimulation, expressive activities and gravity/counter gravity exercises the age group of children are (n =30, age 3 months to 6 years old.) pre-intervention assessed by Alberta infant motor scale and the Domen and Delacato technique was continuously given for three months, after that post intervention should be assessed by the therapist.

RESULTS AND DISCUSSION

From the data analysis the Alberta infant Motor scale used to analysis of motor development are gross motor and fine motor–supine lying to side, side to prone, prone to supine, sitting and grasping, these scores are pre and post intervention calculated by SPSS shown below.

The children with cerebral palsy included in the study for the five sessions of the Passive range of motion along with Domen-Delecato pattern movement given. They were re-evaluated at the three-month follow-up. Daily basis the treatment should be given for every child and noticed the motor development. This study was recommended that therapy be carried out twice a day, for continuously five days per week. Pre and post scores were analyzed by Alberta infant Motor Development scale. The study was compared the results of control group A and experimental group B. The variables of supine, prone, sitting, locomotion and grasping there is no significant changes in the pre-intervention. After post intervention phase the variables of control group mean and standard deviation value supine (2.78+ 0.50) prone (4.36+0.54) sitting (3.24+0.59) locomotion (3.42+0.54) and grasping (3.63+0.50), Experimental group of supine (10.2+1.25) prone (10.9+1.40) sitting (10.5+1.42) locomotion (10.1+1.23) and grasping (10.0+1.19). There is statistically significant in the experimental group. The t value of supine (31.3), prone (30.5) sitting (29.2) locomotion (31.0) and grasping (30.0). There is extremely statistically significant compared with control group, experimental group treatment of Domen and Delecato pattern very effective for motor development in children with cerebral palsy. The two tailed p value is less than 0.0001, conventional criteria there is statistically significant in the experimental group.

Table -1:Pre-Intervention Analysis (PMD Scale)

Variables	Control Group		Experimental Group	
	Mean	SD	Mean	SD
Supine	4.42	0.50	4.36	0.43
Prone	4.36	0.54	4.39	0.54
Sitting	4.18	0.92	4.07	1.04
Locomotion	3.94	0.31	3.68	1.54
Grasping	3.71	1.55	3.57	1.65

Table -2: Post Intervention Analysis (PMD Scale)

Variables	Control Group		Experimental Group	
	Mean	SD	Mean	SD
Supine	2.78	0.74	10.2	1.25
Prone	3.05	0.76	10.9	1.40
Sitting	3.24	0.59	10.5	1.42
Locomotion	3.42	0.54	10.1	1.23
Grasping	3.63	0.50	10.0	1.19

Supine	31.3	0.26	0.001	p<0.001
Prone	30.5	026	0.001	p<0.001
Sitting	29.2	0.25	0.001	p<0.001
Locomotion	31.0	0.21	0.001	p<0.001
Grasping	30.0	0.21	0.001	p<0.001

CONCLUSION

Cerebral Palsy (CP) describes a group of disorders of the development of movement and posture, causing activity limitation that is attributed to non-progressive disturbances that occurred in the developing foetal or infant brain. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, cognition, communication, perception, and/or behaviour, and/or by a seizure disorder" Together with the work on the definition of CP, a growing number of proposals of new rehabilitation treatment methods were made, based on the increasing awareness of the close interactions between motor and psychological aspects in CP. The approach of these techniques was not aimed at recovering a maximum instrumental effectiveness, but at achieving the complete empowerment potential of the disabled person. The focus was shifted from exercises targeted at the recovery of single muscles to a more global approach on the control of posture and motion. The pattern of movement Domen and Delecato was very effective treatment for children with cerebral palsy.

REFERENCES

Novella, S. (1999). Psychomotor Patterning. Retrieved from https://www.srmhp.org/archives/patterning.html

Novella, S. (2008). Psychomotor Patterning: A Critical Look. Retrieved from https://www.quackwatch.org/01QuackeryRelatedTopics/patterning.html