



EFFICACY OF VINYASA YOGA WITH AND WITHOUT MANTRA CHANTING ON SELECTED CEREBRO MUSCULAR VARIABLES AMONG CHILDREN WITH CEREBRAL PALSY

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Abstract:

The study was designed to find out the Efficacy of Vinyasa yoga with and without Mantra chanting on selected cerebro muscular variables among cerebral palsy affected children. It was hypothesized that there would be significant differences in cerebro muscular variables such as visual perception and proprioception due to the influences of Vinyasa yoga with and without Mantra chanting. To achieve the purpose of the study, 45 male children with cerebral palsy from Chennai city aged between 8 and 12 years were selected randomly and they were divided into three groups namely Experimental group I, Experimental group II and control groups of 15 subjects each. Experimental Group I underwent practice of Vinyasa yoga with mantra chanting, Experimental Group II underwent practice of Vinyasa yoga without Mantra chanting for the period of 22 weeks, five days per week for the maximum of an hour in the morning. The Control group was not exposed to any specific training but they participated in the regular activities. The pre-test and post-test were conducted before and after the training for all the three groups. The cerebro muscular variables visual perception and proprioception were assessed by the Eye hand coordination and hot cold temperature tests respectively. The data pertaining to the variables collected from the three groups before and after the training period were statistically analyzed by using analysis of covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. The results of the study proved that the two experimental groups had significant improvement in visual perception and proprioception due to the influence of Vinyasa yoga practice with and without Mantra chanting than control group. Among the experimental groups Vinyasa yoga with mantra chanting had better significant improvement than Vinyasa yoga without mantra chanting.

Key Words: Cerebral palsy, Vinyasa Yoga, Mantra Chanting, Visual perception, Proprioception

Introduction:

Cerebral Palsy: The word "Cerebral refers to the brains cerebrum which is the part of the brain that regulates motor function." 'PALSY' describes a paralysis of voluntary movement in certain body parts. Cerebral Palsy refers to a group of Neurological disorder that appear in infancy or yearly childhood and permanently affect body movement and muscle co-ordination. The term cerebral refers to brain and palsy refers to the impairment or loss of motor function. A study by the centres for the disease control & prevention shows the average prevalence the cerebral palsy is 3.3 children /1000 life berth..

Vinyasa Yoga: The word "vinyasa" can be translated as "arranging something in a special way" like yoga poses for example. Vinyasa is also the term used to describe a specific sequence of poses. Vinyasa is a Sanskrit term often employed in relation to certain styles of yoga that usually refers transition between two different positions. Nyasa—denotes to place and Vi -denotes in a special way. The main concept of vinyasa is originated from the basic sequences of Sri Krishnamacharya (1888- 1989). Yoga poses elaborately explained and enlightened by Srivatsa Ramaswami who is the disciple of Sri Krishnamacharya. According to Srivatsa Ramaswami the Sanskrit word Vinyasa comes from a prefix "Vi" which means variations, and a suffix "Nyasa" which means "within prescribed parameters".

Mantra Chanting: Mantras are sacred sound syllables from the vedic tradition. For thousands of years they have been refined to impart healing powers for spiritual development and total rejuvenation of mind and body. The mantras are energy based sounds and thought based waves. Likened to flames of fire they energize PRANA the life force and eventually quieten the mind. Mantras are means of purifying the mind. Each Mantra is a store house of infinite divine power and all mantras are equally powerful. Mantras also work according to one's karma and positive and negative energy that were accumulated. Repetition of Mantras set up vibrations that activate the chakras whereby there is an even flow of beneficial energy in the body. Mantras can be used in Single or in combination with others for the healing process.

Visual Perception: It is the ability to interpret the surrounding environment by processing information that is contained in visible light. The resulting perception is also known as eyesight, sight or vision. (Kathleen M. Galotti 2008)

Proprioception: It is the sense of relative position of neighbouring parts of the body and strength of effort being employed in movement. In human being it is provided by proprioceptors (muscle spindles) in skeletal striated muscle and tendons and the fibrous capsules in joints. (Kathleen M. Galotti 2008)

Objectives of the Study:

To find out whether there would be any significant improvement on selected cerebro muscular variables due to the practice of Vinyasa Yoga with and without Mantra chanting among children with Cerebral Palsy.

Hypothesis:

It was hypothesized that there would be significant improvement on selected cerebro muscular variables such as Visual perception and Proprioception among children with Cerebral Palsy due to the practice of Vinyasa Yoga with and Without Mantra chanting .

Review of Related Literature:

Yildirim Nu (2010) conducted a study to assess whether reaction time in person with intellectual disability can be improved with an exercise program. 50 children and adolescents with mild intellectual disability without Down syndrome were randomly divided in to control and experimental groups. The experimental group participated in a structural physical fitness program for 12 weeks. Significant improvements in reaction time were observed in the exercise group but not for the control group. Results indicated that reaction time can be improved with an exercise program in youth with intellectual disability.

Methodology:

Forty five male children with cerebral palsy between the age group of 8 to 12 years were selected randomly from Chennai city. The children were grouped in to three namely Experimental Group I, Experimental Group II, and Control Group, where the Experimental Group I children practiced Vinyasa yoga with Mantra chanting, Experimental Group II children practiced Vinyasa yoga without Mantra chanting for five days per week, 60 minutes practice in the morning for the period of 22 weeks, the control group children were not exposed to any training. Prior to and after the training programme the data were collected on the selected cerebro muscular variables Visual perception and Proprioception by using Eye hand coordination and Hot cold temperature tests respectively for all the three groups. The collected data were statistically analysed using Analysis of Co-Variance (ANCOVA) to test the hypothesis .To find out paired mean difference among the groups Scheffe's Post hoc test was used at 0.05 level of confidence.

Statistical Analysis:

Prior to and after the training programme the data were collected on the selected cerebro muscular variables Visual perception and Proprioception by using Eye hand coordination and Hot cold temperature tests respectively for all the three groups. The collected data were statistically analysed using Analysis of Co-Variance (ANCOVA).To find out paired mean difference among the groups Scheffe's Post hoc test was used at 0.05 level of confidence. The following tables show the statistical analysis of the data collected.

Table 1: Analysis of Covariance of the Means of Visual Perception among Two Experimental and Control Groups (Scoring Points)

Test	Group I	Group II	Control Group	Source of Variance	Sum of Squares	Degrees of Freedom	Mean Squares	Obtained F ratio
Pre Test	7.00	7.13	6.87	Between	0.53	2	0.27	2.1
				Within	23.47	42	0.57	
Post Test	11.87	10.13	7.00	Between	182.53	2	91.27	74.48*
				Within	51.47	42	1.23	
Adjusted Post Test	11.87	10.02	7.12	Between	170.48	2	85.24	105.43*
				Within	33.15	41	0.81	

* Significant at 0.05 level of confidence.(Table value for df 2 and 42= 3.22, Table value for df2 and 41= 3.23)

Table 2: Scheffe's Post-Hoc Test for Adjusted Means of Visual Perception

Group I	Group II	Control Group	Mean Difference	Required C.I
11.87	10.02	----	1.85*	0.83
----	10.02	7.12	2.90*	0.83
11.87	----	7.12	4.75*	0.83

* Significant

Graphical Representation of Means of Visual Perception for all Three Groups:

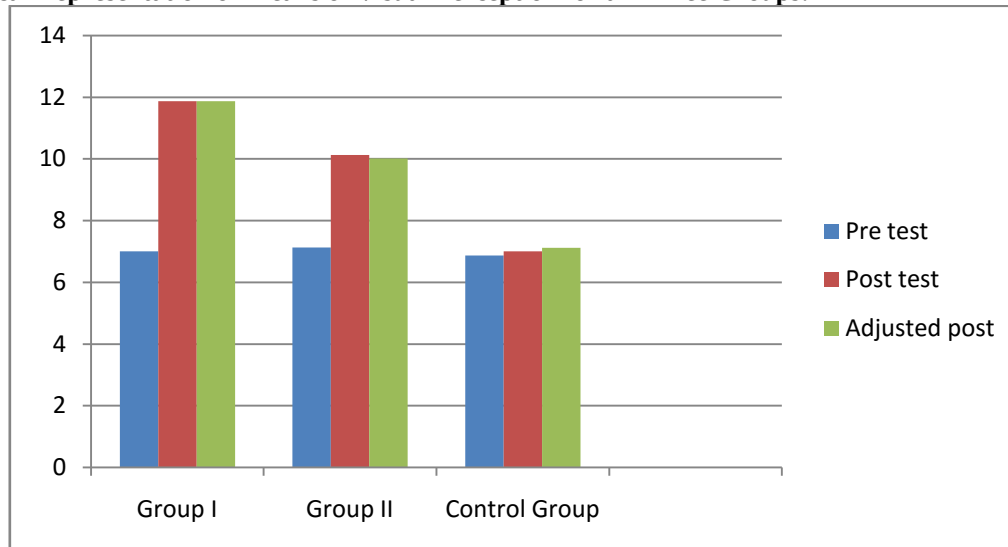


Table 3: Analysis of Covariance of the Means of Proprioception among Two Experimental and Control Groups (Scoring Seconds)

Test	Group I	Group II	Control group	Source of Variance	Sum of Squares	Degrees of Freedom	Mean Squares	Obtained F ratio
Pre Test	51.20	51.07	51.53	Between	1.73	2	0.87	1.62
				Within	59.07	42	1.41	
Post Test	43.67	47.07	51.40	Between	450.71	2	225.36	89.4*
				Within	105.87	42	2.52	
Adjusted Post Test	43.71	47.18	51.24	Between	420.53	2	210.27	100.9*
				Within	85.41	41	2.08	

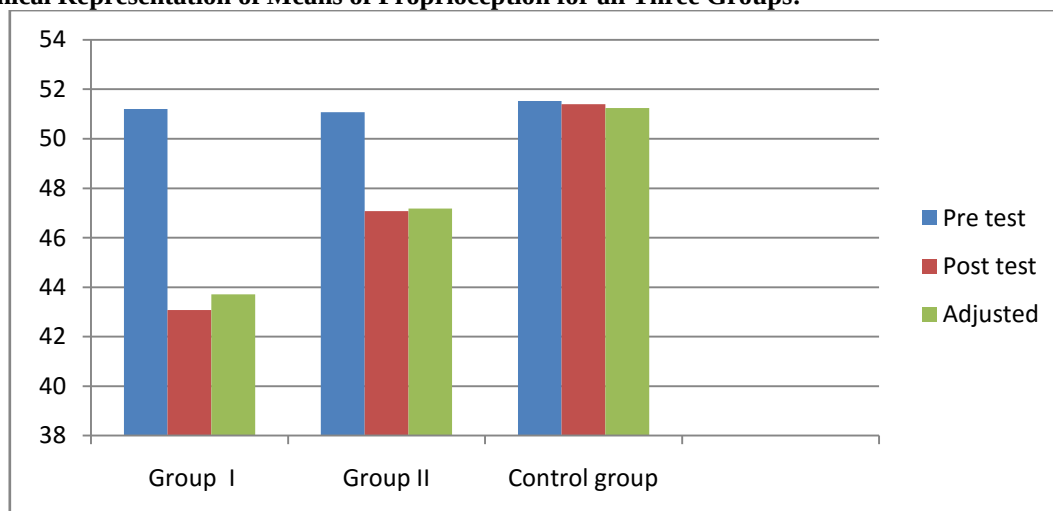
* Significant at 0.05 level of confidence. (Table value for df 2 and 42= 3.22, Table value for df2 and 41= 3.23)

Table 4: Scheffe's Post-Hoc Test for Adjusted Means of Proprioception

Group I	Group II	Control Group	Mean Difference	Required C.I
43.71	47.18	----	3.48*	1.34
----	47.78	51.24	4.06*	1.34
43.71	----	51.24	7.54*	1.34

* Significant

Graphical Representation of Means of Proprioception for all Three Groups:



Conclusions:

The results presented in the above tables proved that there was significant improvement in the selected cerebro muscular variables such as Visual perception and proprioception among children with cerebral palsy due to the practice of Vinyasa yoga with and without mantra chanting for the period of 22 weeks, Hence the hypothesis accepted at 0.05 level of confidence. Among the two Experimental groups the Group I children had better significant improvement than the Group II children, as it is proved in the Table II and Table IV. Thus it is proved that Vinyasa yoga with mantra chanting had better significant improvement than Vinyasa yoga without mantra chanting. Thus the hypothesis was accepted at 0.05 level of confidence.

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