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Impact of vision on neck control in cerebral palsy child

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Introduction: Deficient neck control is one of the key problems in cerebral palsy (CP). Neck control depends on the interaction of multiple inputs from different sensory systems, one of them being visual functions. Many of the CP cases have visual impairment conditions as well. Assessment and correction of visual impairment can be of significance for making refined head control and improving both orientation and balance. Objective: To analyze the impact of vision on neck control in cerebral palsy children. Study design: Observational cross sectional study. Method: Total of 180 children diagnosed with cerebral palsy and aged between 1-4 years were screened for the study. Among them, 40 subjects (26 males and 14 females) with neck control problem were recruited. Sample was collected on the basis of convenience sampling after giving due consideration to inclusion and exclusion criteria. After an informed consent from parents, all children were made to undergo vision preliminary test and were assessed by pediatric ophthalmologist. Result obtained were analyzed and subjects were divided into two groups, group A 14 subjects with one or more visual impairment, and group B 26 subjects with normal vision. Neck control of all subjects was assessed and graded as 0,1,2, and 3. Neck control was graded based on "Clinical rating scale for head control – a pilot study" by Shashidhar Rao Chavan. In both groups neck control was assessed with subjects lying in supine position to maintain homogeneity of the data. Results: Remarkable variation in neck control was found between group A and B. Subjects in group A showed poor neck control, with mean neck control grade 1.105 whereas subjects in group B comparatively had better neck control with mean grade 2.238.

Conclusion: This study concludes that visual dysfunctions seem to play a distinct role in the postural control of children with CP. Thus assessment and improvement of visual functions during CP rehabilitation can significantly help subjects improve their neck control and posture and balance as a whole.

Biography

Sanam Mainali is currently working as a Bachelor in Physiotherapy Internee in Dayananda Sagar College of Physiotherapy, Bangalore, India. She completed her high school from Kathmandu, Nepal and moved to Bangalore for higher studies. She will be graduating BPT in this August. She has three international publications. She got her first study published in international journal while she was in third year UG. She has recently bagged First Prize in Paper Presentation in conference conducted by Indian Association of Cerebral Palsy. She is also the First Rank Holder of her batch and Distinction Holder in BPT.

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