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Relationship between Graspand Lateral Pinch StrengthinResponse toVestibular Stimulation in Children with HemipareticCerebral Palsy

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Abstract: Interactions with the external environment require a skilled and proficient functioning hand that can perform complex actions, such as grasping. Adequate finger strength and coordination are crucial in hand functions.To investigate the relationship between grasp and lateral pinch strength aftervestibular stimulation in children with hemiparetic cerebral palsy.Grasping skills and lateral pinch strength evaluated in sixty hemiparetic cerebral palsied children (40 boys, 20 girls; ranged in age from 4 to 6) using Peabody Developmental Motor Scale and Jamar hydraulic pinch gauge respectively. Children randomly assigned into three groups of equal number; control group (A), study group (B) and study group (C). The three groups received the same conventional physical therapy program. Children in the control group received especially designed occupational therapy program from sitting position. Children in study groups received the same occupational therapy program given to the control group during vestibular stimulation from prone position on especially designed wedges. All measured variables assessed before and after six months of treatment.There was a non-significant weak direct correlation between grasp and lateral pinch strength in group A. Moreover, in group B therewas a significant strong direct correlation while, therewas a significant moderate direct correlation in group C. This study provides evidence that grasp and lateral pinch strength have significantly direct correlationas a result of vestibular stimulation.
Key words: Hemiparesis; Vestibular Stimulation;Grasp Skills;Lateral Pinch Strength.

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