

# Correlation Between Sensory Impairments and Truncal Control in Children with Cerebral Palsy

Gargi Kulkarni\*, Dr. Rachana Dabadghav

Sancheti Institute College of Physiotherapy, 11/12, Thube Park, Shivajinagar, Pune, Maharashtra 411005

\*Corresponding author

## ABSTRACT

**Introduction:** Cerebral palsy is the commonly used term for a group of conditions characterized by motor dysfunction due to non-progressive brain damage early in life. Cerebral palsy has a variable patho-etiology owing to various 1. antenatal 2. neonatal and 3. postnatal causes. A range of pathological lesions like cerebral atrophy, degeneration of basal ganglia and cerebellar lesions may co-exist. All these pathophysiological and pathoetiologies give rise to diminished interaction between the central nervous system and musculoskeletal system, leading to development of motor and sensory deficits in cerebral palsy. Sensory integration disorder is defined as 'the inability of a person to use the information he/she receives through his/her sensory system, in order to function in daily life properly'. Of all the motor impairments, the most important one is trunk control, of which both static and dynamic aspects are affected in children with cerebral palsy. The child receives sensory input and makes the necessary postural changes to complete a task in the most effective and efficient way. If the sensory systems are damaged, then it may possibly play a role in delayed attainment of postural control in children with cerebral palsy.

**Method:** A cross sectional study was done amongst children with cerebral palsy (any category) in the age group of 6-12 years. Both genders were included. The sensory impairments were assessed using the "Short Sensory Profile", and the trunk control was evaluated using "Trunk Control Measurement Scale". Spearman's correlation was used for data analysis.

**Results:** Data analysis showed that the mean age of samples was 9.58 years. The percentage of males and females was 73.1% and 26.9% respectively. The most predominant type of cerebral palsy was spastic diplegic type, accounting for 69.2%. Spearman's correlation suggested that there is a significant moderate correlation ( $r= 0.41$ ,  $p= 0.03$ ) between sensory impairments and trunk control.

**Conclusion:** There exists a significant moderate correlation between sensory impairments and truncal control in children with cerebral palsy.

**Keywords:** Truncal control, Sensory impairment, Cerebral palsy

