DOI.10.7860/JCDR/2026/90232.23814 Abstract No.: 44

Influence of Strabismus and Binocular Vision Disorders on Gross Motor Function in Children with Cerebral Palsy: A Systematic Review

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ABSTRACT

Introduction: Motor impairment in cerebral palsy is often accompanied by disturbances in visual processing. Strabismus and binocular vision disorders may interfere with depth perception, spatial orientation, and postural control, potentially influencing motor performance.

Aim: This review explored whether abnormalities such as strabismus and impaired binocular vision are associated with reduced gross motor ability in children diagnosed with cerebral palsy.

Materials and Methods: Relevant studies were identified through database screening of published research examining visual dysfunction alongside standardised motor assessments in paediatric cerebral palsy populations. Studies meeting predefined eligibility criteria were reviewed, and findings were organised through qualitative synthesis due to variation in materials and methods and outcome measures.

Results: The analysed literature consistently indicated that visual abnormalities are more frequent in children with greater motor severity. Persistent ocular misalignment, reduced stereoacuity, and binocular coordination deficits were linked with poorer performance on gross motor classification scales. Evidence across studies suggested that compromised visual input may influence postural stability, coordination, and overall movement control.

Conclusion: Evidence indicates a meaningful association between binocular visual disorders and motor limitations in children with CP. Visual dysfunction appears to influence motor performance beyond being a coexisting condition.

Keywords: Gross motor function, Motor impairment, Visual processing.

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