

OP 17 - Effect of the vision on balance in children with visual impairments

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Introduction: The majority of children with visual impairments of the world population are in Asian countries. Vision plays an important role in maintaining balance in human body. Balance is required to prevent humans from falling over when standing and moving or locomotion. Correlations of the degree of the vision loss, age, BMI value with the balance are important to maintain a proper balance. The objective was to compare balance between children with visual impairments and those children with normal vision.

Methods: A cross-sectional study was conducted in children with visual impairments (n=45, 11-18 years aged, (visual acuity-12/6-0)) from Deaf and Blind School, Rathmalana and sighted children (n=45, 11-18 years aged) from Moratuwa Maha Vidyalaya. Among the study sample 33 subjects were partially visually impaired (visual acuity 6/12-6/60) and 12 subjects were fully visual impaired (visual acuity 3/60-0). Balance subtest of Bruininks -Oseretsky Test (BOT)-2nd edition was used to assess balance. Visual acuity was measured by using a Snellan chart. Anthropometry data were taken by using validated stadiometer and weight scale.

Results: Visually impaired children had significantly lower mean score of BOT-2 balance subtest (21.58 ± 6.87) than sighted children (31.07 ± 2.07 , $p < 0.001$). But there was no a statically significant difference in total score of BOT-2 score between partially impaired children and fully visually impaired children ($p > 0.05$). There was a significant negative linear relationship between balance and Body Mass Index (BMI) ($p < 0.05$, $r = -0.351$). No significant correlation was found between balance and age ($p > 0.05$).

Conclusion: Impaired balance was observed in visually impaired children. With the increasing of BMI value the balance was decreased. Therefore, introducing balance and physical fitness training programs would be beneficial for children with visual impairments for maintaining an independent life.

Key words: Balance, visual impairments, BMI, age

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