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Analysis of the impact of Tomatis's training on the level of cognitive functioning in children with risk of dyslexia

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Statement of the Problem: Children with Down syndrome present psychomotor developmental delay.

Aim: The aim of the study was to assess body posture, balance and functional motor abilities in children with Down syndrome.

Methodology & Theoretical Orientation: The study was approved by the Bioethics Committee of Poznań University of Medical Sciences (consent ref. no. 23/10). Research group consisted of 79 children with DS (42 boys, 37 girls), average age of 6 y 3 m ±4 y 6 m. Participants were divided into groups according to age range into: <3 years old, 3–6 years old, >6 years old. The research took place in Great Poland region, in patients with Down syndrome. We assessed children by Pediatric Balance Scale, Gross Motor Function Measure-88, Kasperczyk Viusal-Point Method. Thanks to psychological diagnosis, the degree of mental development was determined using Wechsler Intelligence Scales for Children and Brunet – Lezine.

Findings: Body posture estimation revealed that 53% of children had lumbar hyperlordosis, shoulder protraction 25%, protruding scapulas 30%, flat foot 23%, funnel chest 19%, pigeon chest 11%, scoliosis 11%, and hyperkyphosis 9% of patients. There was statistically significant relationship between age of participants and shoulder protraction (p=0.025), protruding scapulas (p=0.012), flat foot (p=0.01), deformity of chest (p=0.0005). Lumbar hyperlordosis was correlated to low scores of motor function (p=0.01). Children with flat foot had lower scores in balance than children without such deformities (p=0.039). Children with mild mental retardation had better balance score than moderate or profound mental retardation (p=0.03).

Conclusion & Significance: 1. Shoulders protraction, flat foot and chest abnormalities are common for children with Down syndrome. 2. Balance scores are better in children with Down syndrome who have mild mental retardation. 3. Flat foot is related to poor balance abilities.

Biography

Ewa Mojs, PhD, is a Neuropsychologist, Head of the Department of Clinical Psychology, Poznan University of Medical Sciences, Researcher and Practitioner. She is involved in the coordination of scientific input in research concerning neuropsychological aspects of CNS diseases. She published over 150 articles and 10 monographs in Psychology, and is an Evaluator of EU projects.

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