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The role of visual functions in persisting Developmental Coordination Disorder (DCD) among 7-year-old children: A follow-up study

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Abstract

Children with Developmental Coordination Disorder (DCD) are a heterogeneous group regarding underlying problems. They struggle with a range of problems, including gross motor skills, fine motor skills and learning related problems which also seem to persist into adolescence. The aim of this study was to determine whether young children with DCD outgrow their DCD status without any motor intervention and whether visual functioning problems are related to DCD status. Children (N = 32) with a mean age of 95.66 months form part of the study. They were evaluated with the Movement Assessment Battery for Children (MABC) during a one year follow-up study. The Sensory Input Systems Screening Test and the Quick Neurological Screening Test II (QNST) were used to determine the status of visual functions. The results indicated that 84.38% of the group did not outgrow their DCD status, but the motor performance of most subjects, instead, deteriorated ($p < 0.00$). Significant percentages of eye tracking problems were found in the group. It is concluded that most children will not outgrow their DCD status and that visual functioning problems may play a role in the DCD status of such children. It is recommended that children with DCD receive intervention and that vision therapy should be part of such intervention programmes.

Key words: Convergence, DCD, fixation, ocular alignment, tracking, visual functioning problems.

Introduction

The term "Developmental Coordination Disorder" (DCD) is accepted to describe children with problems or limitations with the development of motor coordination and motor clumsiness. These children are characterised by normal intelligence and no neurological conditions or physical disabilities (American Psychiatric Association, 2000).

Worldwide, the occurrence of DCD in school aged children between the ages of 5 and 11 years has been reported by the American Psychiatric Association (APA, 2000) and other researchers (Hoare & Larkin, 1991; Wright & Sugden, 1996) to be between 3% and 22%. Comparatively a higher percentage was found in the North-West province in South Africa (Pienaar, 2004).