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Effect of Migraine on Functional Performance and Reported Symptoms in Children with Concussion

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Abstract: Concussion is a common brain injury that affect physical and cognitive performance. While several studies indicated that adolescents are more likely to develop concussion, in the last decade concussion has been mainly explored in adults. Migraine has been identified as a common symptom reported after concussion and was tied with worse prognoses. Hence, we aimed to investigate the effect of migraine on functional performance and self-reported symptoms in children with concussion. This cross-sectional study involved 35 symptomatic children aged 9 – 17 years recruited within 1 year from their concussion injury at a tertiary balance center. Participants' symptoms and functional performance were assessed using the post-concussion symptoms scale (PCSS) and the functional gait assessment (FGA) respectively. Concussed children with migraine showed significantly worse symptoms including fatigue, sleeping impairment, difficulty concentrating, and visual problems (P < 0.05). Functional performance didn't show differences between concussed children with and without migraine. Although concussed children with and without migraine didn't show any differences on functional performance, worse cognitive symptoms were found in concussed children with migraine. A customized treatment approach is indicated in the presence of migraine for the management of children with concussion. Keywords: Concussion; Migraine; Balance; Post-Concussion Symptoms Scale; Functional Gait Assessment

Keywords: concussion, migraine, post-concussion symptoms scale, functional gait assessment, balance

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