



Behavioral Dysregulation and Injury Vulnerability in Children: The Role of ADHD Symptom Domains

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Abstract

Behavioral dysregulation associated with attention-deficit/hyperactivity disorder (ADHD) may increase vulnerability to injury during childhood. Hyperactivity and impulsivity are particularly linked to risk-taking behaviors and reduced inhibitory control. The aim of this study was to examine whether ADHD symptom domains are associated with increased injury vulnerability, operationalized as dental trauma, in a pediatric cohort. This study represents a secondary analysis of data derived from a previously published cross-sectional pediatric cohort. Eighty children (42 boys, 38 girls; mean age 8.37 ± 3.11 years) were assessed using the ADHDT caregiver questionnaire. Symptom domains of hyperactivity, impulsivity, and inattention were analyzed as behavioral indicators of dysregulation. Associations between ADHD symptom domains and dental trauma were evaluated using chi-square tests and odds ratios (OR) with 95% confidence intervals (CI), while continuous domain scores were examined using Pearson correlations. ADHD symptom domains were common within the cohort, with hyperactivity present in 72.5% of children, impulsivity in 83.8%, and inattention in 70.0%, and 60% of participants exhibiting all three domains. Hyperactivity and impulsivity were associated with a higher prevalence of dental trauma, indicating increased injury vulnerability among children with elevated behavioral activation. Domain scores were strongly intercorrelated ($r = 0.636-0.852$; $p < 0.001$), suggesting a shared dysregulation component underlying symptom expression. These findings indicate that ADHD-related behavioral dysregulation may represent a behavioral risk marker for accidental injury in children and highlight the potential relevance of behavioral factors in injury prevention.

Keywords: ADHD; behavioral dysregulation; dental trauma; hyperactivity; impulsivity; injury risk