Neurocognitive Correlates of Attention-Deficit Hyperactivity Disorder Symptoms in Children Born at Extremely Low Gestational Age.

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Abstract

OBJECTIVE:
Compared with children born near term, those born extremely preterm (EP) are at much higher risk for attention-deficit hyperactivity disorder (ADHD). Little information is available about differences in neuropsychological outcomes among EP children with and without ADHD. Our analyses aimed to evaluate the neuropsychological correlates of ADHD symptoms in extremely low gestational age newborns (ELGANs).

METHODS:
We obtained Child Symptom Inventory-4 reports from parents (n = 871) and teachers (n = 634) of 10-year-old children born before the 28th week of gestation. Participants completed standardized assessments of neurocognitive and academic functioning.

RESULTS:
In the total sample, children who screened positive for ADHD symptoms were at increased risk for neurocognitive limitations. These associations were weaker when the sample was limited to those with intelligence quotient (IQ) ≥70 or ≥85. Even those with IQ ≥85 who screened positive for ADHD symptoms were more likely than their peers to have deficits on the DAS-II Working Memory Cluster and the NEPSY-II Auditory Response subtest. The risks for impaired academic performance (Z ≤ -1) on components of the WIAT-III were 2-to-3 times higher in this group than among ELGANs not classified as having ADHD symptoms.

CONCLUSION:
Among children born EP, those with ADHD symptoms are more likely to have a global neurocognitive impairment. When IQ is within normal limits, ADHD symptoms are associated with deficits in executive functioning skills. These findings highlight a group at risk for executive functioning deficits and related academic difficulties, even in the absence of intellectual disability.