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Spousal support, child attachment, and brain structure in ADHD and typically developing children

Abstract:

Secure attachment formation is fundamental to children's socioemotional development; however, the neural mechanisms supporting this process and the contextual factors that facilitate it remain insufficiently understood. These questions are particularly relevant for children with attention-deficit/hyperactivity disorder (ADHD), who show elevated rates of insecure attachment and impose greater caregiving demands than typically developing (TD) peers. This study examined whether spousal support serves as a protective factor promoting secure attachment in children with and without ADHD, potentially through effects on maternal stress and neural development. We recruited 55 children with ADHD and 34 with TD, along with their mothers. The children completed T1-weighted structural MRI, and mothers reported perceived spousal support and parenting stress. Children's attachment was assessed using a self-reported questionnaire. Across the entire sample, higher attachment security was associated with smaller putamen and dorsal anterior cingulate cortex volumes. Mediation analysis showed that putamen volume partially mediated the association between spousal support and children's attachment security. Greater spousal support was also linked to lower maternal parenting stress; mothers of children with ADHD reported substantially higher stress than mothers of children with TD. Our findings highlight the pivotal role of spousal support in fostering caregiver well-being and children's secure attachment, underscoring the need to strengthen family support systems, particularly for families of children with ADHD. Future intervention studies improving spousal support and testing its impact on attachment are necessary to confirm these results.

Keywords: Attachment, Social support, MRI, ADHD

Biography: Ishii-Takahashi graduated from Gunma University School of Medicine, trained in pediatrics, neuropsychiatry, and child psychiatry, and obtained three medical specialties and a PhD in Neurology from the University of Tokyo School of Medicine. Currently, she is a professor of department of Psychiatry, The University of Tokyo. Her main research interests are in supporting children with attention deficit hyperactivity disorder and their parents, as well as how treatment affects the brain.