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Mini Review

Pediatric Attention Deficit Hyperactivity Disorder and Risk Factors for Personality Disorders

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Abstract

Empirical studies of Attention Deficit Hyperactivity (ADHD) in childhood point to executive functioning and emotional regulation weaknesses as contributing considerably to the children's difficulties with academic performance and developmentally appropriate social and emotional functioning. Children with ADHD can be at risk of experiencing peer rejection, compromised self-esteem, and negative emotional reactions from teachers and caretakers. In youth with an underlying genetic predisposition for developing personality disorders, ADHD and co-occurring behavioral problems constitute risk factors for the emergence of personality disorder features in late adolescence and adulthood, especially features of Antisocial Personality Disorder (ASPD) and Borderline Personality Disorder (BPD). Comprehensive treatment for children with ADHD entails providing counseling for the parents, psychotherapy for the child that emphasizes self-regulation ability, compassion, mentalization, and organizational skills, as well as working with classroom teachers and the judicious use of medication.

Keywords: ADHD; Risk Factors; Borderline Personality Disorder; Antisocial Personality Disorder

Introduction

Even though not all of the specific pathways have been fully articulated, an accumulation of genetic, neurobiological, and environmental risk factors influence the unfolding of personality disorders. Attention Deficit Hyperactivity Disorder (ADHD) in childhood is linked with an increased likelihood of having personality disorders beginning in late adolescence, particularly Borderline Personality Disorder (BPD), Antisocial Personality Disorder (ASPD), Avoidant Personality Disorder, and Narcissistic Personality Disorder although the degree of influence and the stability of the ADHD associated risk factors are not consistent across the disorders [1]. Among the personality disorders, the features of ASPD and BPD tend to remain more persistent throughout the life cycle even if individuals' symptom patterns no longer fully meet the DSM criteria for the diagnoses.

Children and young adolescents who exhibit dysregulated, impulsive, aggressive behavior associated with ADHD in addition to attentional problems challenge families and schools to provide an optimally attuned environment that will reduce the risk of the child's developing personality disorder features, such as BPD or ASPD features in late adolescence or early adulthood [2]. While ADHD and BPD are completely different disorders, they have features in common, especially impulsivity and self-regulation problems. ADHD likewise represents a risk factor for the development of BPD, and the two disorders often occur simultaneously in adulthood [3]. The impulsivity and emotion dysregulation that are common features of both disorders are frequently associated with considerable dysfunction throughout development. Children with ADHD whose emotional dysregulation is accompanied by

a displacement of negative self-evaluations together with a lack of self-compassion and compassion for others may demonstrate callous-unemotional traits that are manifested in Conduct Disorder (CD) behavioral symptoms. Subgroups of children and youth with ADHD and CD who continue to have callous-unemotional traits in spite of positive life experience and greater maturation are at further risk for the later development of ASPD [4]. In addition to helping a child with ADHD develop self-regulation skills, individual psychotherapy and family counseling can play an important role in addressing the psychological adversity that many children with ADHD experience, and also in helping adult caretakers provide the effective, compassionate parenting that is particularly important for children with ADHD and features of CD [5].

ADHD and Comorbidity

Mood disorder symptoms and anxiety disorder symptoms are common in children and adolescents with ADHD. Dysfunctional, age-inappropriate emotional outbursts by children with ADHD often reflect deficits in executive functioning ability, such as poor decision making ability and working memory, as well as problems with emotion regulation skills, such as an inability to inhibit emotional overreactivity. Executive functioning deficits associated with ADHD are highly positively correlated with symptom severity and also with the development of substance abuse disorders. Furthermore, children with ADHD who have working memory problems frequently have trouble learning from the negative consequences of their inappropriate behavior. They are more likely to have oppositional, defiant behavior or symptoms of CD, which can contribute to their experiencing social rejection, bullying, and very harsh parenting. With the continuance of these neurocognitive and self-regulation difficulties, and when the child's age-inappropriate aggressive and impulsive behaviors are accompanied by exploitativeness and instrumental aggression, there is an increased likelihood of ASPD. For adolescents with these areas of vulnerability associated with ADHD, who have even greater emotion regulation problems and a predisposition for the development of BPD, there is an increased likelihood of negative family, social, and occupational outcomes that are frequently associated with BPD in adulthood [6]. Based on retrospective and prospective longitudinal studies, the prevalence estimates of adults with BPD who met the diagnostic criteria for ADHD in childhood range from 41% [7] to over 70% [8]. Adults who have had ADHD and CD with callus-unemotional traits in childhood as well as features of ADHD in adulthood are at increased risk for ASPD; studies estimate that 40% of children with ADHD will continue to have features of ADHD in adulthood [9].

ADHD, CD and ASPD

Given the limited success that children with ADHD frequently experience in meeting adult expectations for adequate functioning at school and at home and the multidimensional developmental factors that contribute to oppositional, defiant behavior, many children with ADHD demonstrate features of Oppositional Defiant Disorder (ODD). However, the long-term outcome of children with ADHD who develop ODD, alone, differs from that of children with ADHD who later develop both ODD and CD. Children with ADHD and ODD who do not develop CD are at risk for developing anxiety disorders and Major Depressive Disorder. Children with ADHD who also have co-occurring ODD and CD have a significantly higher risk of developing ASPD and/or substance use disorders [10].

Investigations of the similarities and differences between children and adolescents who have ADHD with and without CD have identified family correlates and personality differences between these two groups while also highlighting the critical role of the presence and course of callous-unemotional traits and parenting practices. Children and young adolescents with ADHD, CD and callous-unemotional traits, who also have antisocial peers and an absence of positive support systems and role models are at even higher risk for developing ASPD. In an important twin study of the personality features of 11 to 17 year old twins who had ADHD, or CD, or ADHD plus CD, versus community participants without these disorders, both the female and the male twins with ADHD and CD had the highest levels of emotional lability and stress reactivity and also the lowest levels of conscientiousness and personal responsibility [11]. Despite the frequency with which children with ADHD exhibit oppositional or defiant behavior, the majority of children with ADHD do not develop ODD, and not all children with ODD will develop CD. Studies of the family relationships of school aged children with ADHD plus ODD, versus children with ADHD plus CD, indicate that although punitive, inconsistent parenting may contribute to the persistence of both ODD and CD related behaviors, an absence of warm, involved parental relationships with the children is only associated with children with ADHD and CD [12]. In addition, a persistently callous, unemotional style of relating to others in childhood is highly correlated with a history of maltreatment, particularly emotional abuse or neglect, and constitutes a risk factor for antisocial behavior in adulthood [13]. Callous-unemotional traits reflect the impact of both genetic variants and environmental factors whereas actually engaging in callous, exploitative behaviors without remorse or concern for the welfare of others are among the symptoms of ASPD [14].

ADHD and BPD

Similar neurobiological factors are associated with ADHD and BPD, namely, alterations in neurotransmitters and structural differences in the limbic system and the prefrontal cortex [15]. A number of investigators have reported that children with ADHD are at a greater risk for maltreatment, including by family members, than children without ADHD, and that the combination of childhood maltreatment and a neurobiological vulnerability for poor emotion regulation ability is a significant risk factor for the development of BPD [16]. In fact, adversity in childhood may represent a shared risk factor for both BPD and ADHD, which could partially account for the frequent co-occurrence of ADHD with BPD in adulthood [17]. Nevertheless, there are extensive differences in the etiology, characteristic symptoms, symptom acuity, longitudinal outcomes and degree of impairment associated with ADHD versus BPD. Individuals with ADHD are not ordinarily characterized by intense abandonment anxiety, suicidality, non-suicidal self-injury, extreme emotional lability or marked instability in affect, self-image, identity and relationships [18].

Prevention of Personality Disorders

There has been considerable research about the longitudinal course and the treatment of personality disorders in late adolescence and adulthood, including the treatment of BPD and ASPD. However, there have been fewer long-term outcome studies that investigate mentalization ability and self-compassion as protective factors in children who are at risk for the development of personality disorders. There is a strong need for research on psychotherapeutic interventions that facilitate mentalization ability and self-compassion in addition to executive functioning skills and emotion regulation ability in children with ADHD [19]. Children's innate psychological strengths, the absence of adversity, the availability of support systems and environmental resources, and the extent to which families and schools avoid criticizing children for their ADHD symptoms can all help the children develop compensatory strategies and greatly influence their long-term outcome. Caretakers who provide positive parenting and emotional support for children with ADHD can have a very beneficial impact on the child's emotional development and overall functioning [20]. Helping parents develop compassion and empathy for children with ADHD remains an important treatment goal. In keeping with their limitations in meeting adults' and peers' expectations for standards of self-composure and achievement, children with ADHD report experiencing low levels of support from family members, teachers and peers [21].

Conclusion

ADHD, BPD and ASPD are all complex, heterogeneous disorders that arise from a plethora of interacting developmental pathways. Pharmacological interventions with children and adolescents with ADHD aim to reduce the symptoms of hyperactivity, inattention, and impulsivity and to improve their overall adjustment and functioning. Investigations of the long-term effects of interventions designed to help children with ADHD develop greater self-compassion and mentalization ability constitute very promising areas of research, particularly because individuals with ADHD, like those with BPD, have considerable weaknesses in mentalization ability [22]. Psychological treatments with children with ADHD and their caretakers that utilize behavioral, cognitive behavioral, and skills building therapeutic approaches can be improved by including mentalization and compassion focused interventions that aim to prevent the later unfolding of personality disorder features.

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Conflicts of Interest

None.

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