

# Fluctuating Impairment and Complex Presentations: Evolving Care and Research Priorities in ADHD

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Here, we consider recent publications in the *Journal of Clinical Psychiatry* that characterize the progression of attention-deficit/hyperactivity disorder (ADHD) into young adulthood and document that adults with substance use disorders and ADHD experience variable care approaches. Morbidity of adult ADHD in the US has been recognized as a major public health concern,<sup>1</sup> and increased demand for stimulant treatments used for ADHD<sup>2</sup> has brought heightened attention to the importance of clarifying best ADHD evaluation and treatment practices.<sup>3-5</sup>

While studies demonstrate that ADHD persists beyond childhood in a majority of individuals,<sup>6</sup> follow-up to the Multimodal Treatment of ADHD (MTA) study into adulthood presents ADHD as having a variable course over time.<sup>7</sup> As reported in a recent issue of JCP, between elementary school and early adult years, ADHD burden fluctuated in most of a sample of well-characterized MTA participants who had persistent ADHD.<sup>8</sup> This finding would suggest that absence of prior ADHD symptoms does not negate need for ongoing vigilance and raises the question of what length of time ADHD-free should define remission.

The recent MTA analysis found that over time environmental demand, defined as number of major life roles, correlated with lower burden of ADHD, particularly during the

transition to adulthood. The greater number of roles that a teenager or young adult had among studying, working, parenting, or living independently, the lower their ADHD burden was. Future research could confirm whether risk of ADHD fluctuation continues beyond young adult years.

While individuals with less ADHD burden may be more capable of participating in more life roles, there may be a common mediator between role participation and ADHD mitigation: salience. Salience refers to the noticeability or importance of a cue or context. Stimulant treatment may reduce ADHD by increasing the salience of tasks,<sup>9</sup> and so too environments rich in incentivizing stimuli may be easier to engage. A correlated question arises as to how our treatments can be tailored to increase salience for individuals with ADHD. Individuals with executive function challenges often use the word “structure” to describe environmental attributes that facilitate productive habits. A number of self-structuring methods are commonly used, which one study of college students highlighted includes working up against deadlines, working in time blocks with planned breaks, and reformatting learning materials.<sup>10</sup> Coworking with other people at a distance, sometimes complete strangers over the internet, has also become a recommended environmental-modification

productivity tool.<sup>11</sup> The limited research to date on the impact of environmental modification for ADHD has primarily evaluated the impact of distraction management or extended time on evaluations.<sup>12</sup>

Clinicians can recognize the role of salience and help individuals with ADHD work to modify the salience of their tasks and activities. For example, cognitive behavioral therapy may empower individuals to modify salience, by training them to orient on the benefits of an effort rather than the onerous qualities of tasks. Training and counseling of individuals with ADHD may benefit from research identifying successful salience-enhancing behaviors. Studies targeting salience-modification could also lead to new pharmacotherapy and behavioral therapy interventions.

The report also found some predictors of persistence of ADHD: mental health burden in childhood, substance use in adolescent years, and lack of initial treatment response during the MTA study. This is consistent with prior work demonstrating that childhood ADHD severity predicts future morbidity and clinical complexity.<sup>13</sup> The second report we consider, from the current issue of this journal, explores the treatment choices made when adults with ADHD present with a specific form of clinical complexity: substance use disorders.<sup>14</sup> In 10 international specialty clinics, within the first month 40%

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of individuals (mean age, 36.7 years) were treated with a stimulant medication and 25% received a combination of psychopharmacology and psychotherapy.<sup>14</sup> Clinicians may consider many factors in treatment decision-making, but this study found that the study clinic involved contributed more than active substance use, polysubstance use, comorbidity, ADHD symptom severity, or sociodemographic factors. Where individuals were abstinent from substances of misuse, had higher ADHD symptom burden, and had worse overall health, they were more likely to receive a form of ADHD treatment. The variability of approach across sites is noteworthy particularly because this report comes from a consortium of clinics with both ADHD psychotherapy and psychopharmacology resources, and international guidelines for treatment of SUD and ADHD have been established.<sup>15,16</sup>

Treatment of adolescents and adults with ADHD and SUD is evolving. For instance, retrospective evidence suggests that ADHD treatment intersects favorably with SUD outcomes. Several reports also highlight that ADHD pharmacotherapy may improve retention in SUD treatments,<sup>17–20</sup> which represents a major predictor of successful outcome for SUD. Previously, it had been thought that abstinence should be established for an undetermined amount of time prior to initiating medication therapy. More recent guidelines and consensus statements suggest that individuals in treatment for SUD should be evaluated and treated for their ADHD concurrent with their SUD treatment, based on clinical trials and real-world experience. In adolescents and young adults, motivational interviewing and cognitive behavioral therapy have been recommended for this comorbid presentation.<sup>21</sup> The value of combining psychotherapy and psychopharmacology in individuals with SUD and ADHD is another important area of research interest.<sup>22</sup>

Nonstimulant treatments and preferential use of prodrug and/or extended-release preparations of stimulants may be more appropriate where substance misuse is a concern. Data from pilot clinical trials have begun to explore the safety of ADHD pharmacotherapy in alcohol, marijuana, stimulant, and opiate use disorders.<sup>23–26</sup> Of note, however, many of these same studies suggest that when using stimulants, higher dosing may be required for those with current, active SUD compared to non-SUD samples of ADHD.<sup>27,28</sup>

The two articles we consider highlight that the manifestation of ADHD can be heavily influenced by context, as well as individual vulnerabilities and strengths. Future prospective research could improve our understanding of how patient-specific historical factors, such as pattern of ADHD burden over time and comorbid conditions including SUD, should inform personalized treatment recommendations. In a strained ADHD-care environment, efficient use of resources and public health protection are important goals.<sup>5</sup> Effective systems of care for individuals with ADHD would accommodate the underlying vulnerability that the condition creates and recognize that treating ADHD itself may directly impact participation in care.

## Article Information

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