

ADHD in girls and women: a call to action – reflections on Hinshaw et al. (2021)

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For decades, the experience of ADHD in girls and women was largely discounted, leaving unanswered questions regarding differential manifestation of ADHD and related symptoms, developmental course and best practices for assessment and treatment—not to mention countless girls and women left undiagnosed and untreated. Consequently, our theories and clinical approach to ADHD were largely guided by studies on elementary school-aged boys (e.g. Lahey et al., 1994). Motivated by international efforts including the NIMH initiative to include women and minorities in research (see <https://grants.nih.gov/policy/inclusion/women-and-minorities/guidelines.htm>), a limited number of investigators began the study of ADHD in girls.

Professor Hinshaw is one of the pioneers who has studied in depth, using a prospective longitudinal design with excellent retention, a sizeable sample of girls with ADHD and matched comparison girls recruited at ages 6–12 years and followed to age 26 (Hinshaw, 2002). There is much to learn from his Berkeley Girls Longitudinal Study (BGALS). First, we now understand that girls with ADHD are more likely to present with inattentive symptoms that are easily missed by teachers, frequently misunderstood and stigmatized, given incongruent societal expectations for female behaviour. Externalizing problems, present from an early age in many boys with ADHD, are less likely or later emerging in girls, whereas internalizing problems such as depression and anxiety are prominent, often masking the presence of ADHD in girls and women. Despite these frequent comorbidities, ADHD symptoms in girls are uniquely associated with virtually every domain of impairment—from academic engagement/learning to friendships with peers, strained family relationships, self-concept, vocational achievement and ultimately, suicidal thoughts and behaviours (Hinshaw, Nguyen, O’Grady, & Rosenthal, 2022).

Interestingly, in adulthood, the greater than 2:1 ratio in males to females shrinks closer to 1:1 (Kessler et al., 2006), perhaps in part to women’s documented increased insight into their own symptoms (relative to men) and the role transitions that further tax their inattentive symptoms and executive functioning abilities (e.g. vocational, parenting demands). Yet, by adulthood there has often been a cascade of comorbidities that further complicate an accurate diagnosis of ADHD. For instance, what

appears, on the surface, to be depression may result from years of demoralization secondary to ADHD-related academic and social difficulties, along with negative feedback from parents, teachers and peers. Trauma, which Hinshaw and colleagues found to be significantly more prevalent in girls with ADHD, may have begun early in development and remained a persistent force—making it difficult to disentangle from early-emerging ADHD symptoms. Anxiety may result from procrastination/avoidance and concern about failure to perform or meet expectations; however, like ADHD, anxiety may be early-emerging and difficult to temporally disentangle from ADHD.

Given the prominence of inattention and the uptick in impairment around developmental transitions that result in increased EF demands (Mitchell et al., 2019), ADHD in girls/women may be identified later, after years of difficulty and demoralization. One prominent transition for girls and women is when some women take on the role of parent—which, beginning in pregnancy, exerts a biological and environmental influence on the developing foetus. Indeed, a pregnant women’s behaviours (e.g. inconsistent prenatal care, substance use) can influence foetal brain development and the challenges associated with new parenthood (including lack of sleep, stress, hormonal changes) can further impair a new mother’s ability to provide warm, flexible and emotionally regulated parenting for the infant, particularly in the context of infant difficult temperament (Joseph et al., in press). As parents, women with ADHD struggle with both executive aspects (e.g. planning, flexibility, organization) and emotion regulation aspects (e.g. harsh/negative or physical discipline), particularly when their children also display ADHD symptoms and thus require a greater degree of external scaffolding and organization that the mother with ADHD struggles to provide (Johnston, Mash, Miller, & Ninowski, 2012). As a result of such transactional influences, mother-child dyads with ADHD experience additional challenges across time that can exacerbate both the mother and child’s functioning and developmental trajectories (Johnston & Chronis-Tuscano, 2015).

Hinshaw’s seminal work has also elucidated key moderators and mediators of various adverse outcomes in girls and women with ADHD, including academic engagement, which may point to salient treatment targets most relevant to girls with ADHD.

Perhaps most alarming is the link between ADHD and non-suicidal self-injury (NSSI) and suicidal behaviour (Hinshaw et al., 2012). With regard to NSSI, adolescent externalizing behaviour, poor EF and peer victimization are established mechanisms; for suicide attempts, early internalizing problems and peer rejection are documented mediators (Meza, Owens, & Hinshaw, 2021). Again, it may be that the behaviour of girls with ADHD is so far outside gender norms that this contributes to social rejection and isolation. Because modifiable mechanisms like peer victimization temporally precede attempts to harm oneself, they can be captured in efforts to screen and intervene. Among the most prominent mechanisms are the effects of abuse/trauma, which predicted depression and a 33% increase in risk for suicide attempts (Guendelman, Owens, Galán, Gard, & Hinshaw, 2016). Given the seriousness of such outcomes, these mechanisms and moderators are critically important targets for early intervention. Yet, trauma is often not considered in adult ADHD assessment. Hinshaw's research suggests this is absolutely imperative given that trauma serves as a key prognostic indicator.

Conclusions

Given the complex presentation (verbal overactivity vs. behavioural hyperactivity; internalizing problems), enhanced stigma and reduced receipt of services, there are key clinical take-aways from this corpus of work that I would like to end on.

1. Mental health providers, teachers, paediatricians and parents should be made widely aware of the different clinical presentations in girls and women so that ADHD can be identified at an earlier age, so as to interrupt the progression to comorbid psychopathology, including (but not limited to) risk for poor self-concept, NSSI and suicide. The costs of failing to detect and/or misdiagnosing ADHD in girls and women are very high, given the seriousness of these outcomes.
2. Differential diagnosis is extremely critical, as diagnosis typically lends itself to a particular treatment approach. Rating scales completed by parents, teachers and youth are a good starting point, but currently may be insufficient to parse ADHD, depression, anxiety and trauma symptoms, in addition to learning and executive functioning problems, over time. Existing assessment tools and the list of possible comorbidities/outcomes assessed should be expanded to include outcomes identified in Hinshaw and colleagues' work, reflecting the experiences of girls and women in the BGALS study (e.g. NSSI, unplanned pregnancy, intimate partner violence). More careful, evidence-based assessment will be required, ideally in settings like school and primary care, which tend to be more accessible and less stigmatizing than specialty mental health settings.
3. Qualitative methods will prove useful in better understanding the lived experience of girls and women with ADHD, in terms of the difficulties they experience not only with focus, academics and social relationships—but also with the lack of understanding or identification of their disorder. Failure to identify ADHD as an explanation for their lived experiences can lead to self-stigma and poor self-concept, which can further contribute to the development of depression and, in some cases, suicidal thoughts and behaviours.
4. As always, evidence-based treatment should target key symptoms and domains of impairment in an individualized manner. Though Hinshaw cited recommendations for gender-specific treatment approaches, few would argue that evidence-based treatments should *always* target individualized profiles of strengths and weaknesses, with an eye towards preventing potential future problems (e.g. enhancing parental monitoring and open parent-teen communication to address risky sex and unplanned pregnancy outcomes).
5. ADHD is recognized as having a strong genetic component and mothers with ADHD may additionally engage in health risk behaviours that exacerbate risk for their offspring, including poor compliance with prenatal care and substance use during pregnancy, which can lead to prematurity and other birth complications, as well as subsequent parenting difficulties. Leaving ADHD undetected in girls and women therefore has untoward consequences, not only for the girl/woman herself, but also for the next generation of children at risk for ADHD. Routine screening and prompt referral by primary care and other medical providers (e.g. OB/GYN) could facilitate earlier identification and treatment; however, this may require better integration of services in primary and maternal care.
6. The majority of research on the psychopathology and treatment of ADHD does not represent the full demographic range in the US (or other countries for that matter), including girls living in poverty or in cultures that greatly value academic/vocational success. Cultural expectations regarding the behaviour of girls/women may further fuel stigma around ADHD diagnosis and treatment. Increased diversity in our ADHD samples within the United States and globally is absolutely necessary to advance the science and clinical care of ADHD in girls/women.

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