

Wondering about disparities in ADHD diagnosis and treatment

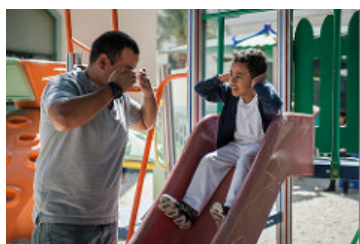
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In a recently released article in *Pediatrics*, Dr. Tumaini Cokeret al. examined the differences in rates of ADHD diagnosis and treatment among children of differing races and ethnicities.

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In a recently released article in *Pediatrics*, Dr. Tumaini Cokeret al. ([10.1542/peds.2016-0407](https://doi.org/10.1542/peds.2016-0407)) examined the differences in rates of ADHD diagnosis and treatment among children of differing races and ethnicities. They surveyed a multi-site sample of over 4,000 parents of children attending public school over 3 waves (5th, 7th and 10th grades) from 2004 to 2011 and asked about ADHD symptoms, a history of doctor or health professional diagnosed ADHD, and use of ADHD medications.

Multiple other meaningful measures gathered included demographics, symptoms of other mental health disorders, access to family centered care and a measure of school functioning. Ultimately the authors concluded that there were significant health disparities related to ADHD diagnosis and treatment: African-American (AA) and Latino children, as compared to white children, were less likely to have a diagnosis of ADHD and were less likely to be treated with ADHD medications. The authors believe that their analysis supports an interpretation of under diagnosis/treatment of AA and Latino children, rather than over diagnosis/treatment of white children-- it's worth your time to read and see if you concur.

A few results caught my attention (no pun intended) and made me wonder about over diagnosis and over treatment. In 5th and 10th grades respectively, 16% and 19% of white children in this study were reported to "have ever received" a diagnosis of ADHD from a health care provider. By comparison, the CDC website reports that in response to the very same question, "Approximately 11% of children 4-17 years of age ... have been diagnosed with ADHD as of 2011," (<http://www.cdc.gov/ncbddd/adhd/data>).

Is the study sample a unique group with a much higher rate of diagnosis than reported nationally? Although the rate of ADHD diagnosis has increased over time and continues to increase (same source), CDC reported rates of ADHD (7.8% in 2003 to 9.5% in 2007 and to 11.0% in 2011) are lower at each time point than study reported rates for white children. In the same vein, it is interesting that although there was no statistically significant racial disparity, a clinically meaningful proportion of children whose parents endorsed neither ADHD symptoms nor ADHD diagnosis were taking ADHD medications (7% of white, 4% of AA and

3% of Latino children in 5th grade). Why would so many children be taking stimulants without apparent diagnosis? Did parents misunderstand the questions about symptoms or diagnosis, or is this a prescribing behavior that merits further study and understanding?

Finally, ADHD symptoms were measured by parent questionnaire and are a very interesting aspect of the study. Parents completed symptom questionnaires that included 7 ADHD symptoms, of which 5 were inattentive symptoms and 2 were hyperactive/impulsivity symptoms. The authors created a dichotomous variable for these ADHD symptoms (yes/no), "defined by a score (sum of symptoms) above the 90th percentile" total score for the sample (can you clarify what the 90% represents). The cut off value was >6 (of 7 symptoms) for 5th and 7th grade surveys and >5 for the 10th grade; a high cut off was chosen since no information on impairment or severity, which are usually important for the clinician, was available. The authors note that there may be racial/ethnic differences in symptom reporting for which they cannot account, and indeed, AA parents report ADHD symptoms at about a 50% higher rate than white and Latino parents at each grade level studied.

This is a truly fascinating aspect of the study, and goes well beyond cut and dried considerations of health disparity. Symptom reporting is inherently subjective, and impacts diagnostic considerations in ADHD. Little work has been done to understand the role of parental perceptions of child behavior in ADHD diagnosis, but it looks like there is a window here for informed work. Prior research (Miller, et al. Attention deficit hyperactivity disorder in African American children: what can be concluded from the past ten years? Clin Psychol Rev 2009) "...highlights the need for more investigation and awareness of relevant cultural issues..." and the important data of Dr. Coker and colleagues looks like a great starting point.

Further Reading

- [Diagnostic Accuracy of Rating Scales for Attention-Deficit/Hyperactivity Disorder: A Meta-analysis](#)
- [Impact of a Web-Portal Intervention on Community ADHD Care and Outcomes](#)
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