Psychosocial Interventions in Attention-Deficit/ Hyperactivity Disorder: Update

Kevin M. Antshel, PhD

KEYWORDS

• ADHD • Psychosocial • Behavioral • Treatment • Child • Adolescent

KEY POINTS

- Medications are useful for managing the symptoms of attention-deficit/hyperactivity disorder (ADHD), but are less effective for improving functioning.
- Psychosocial interventions for child/adolescent ADHD target functional impairments as the intervention goal, and rely heavily on behavioral therapy techniques and operant conditioning principles.
- Behavioral parent training, elementary school–based interventions that rely on behavioral modification, intensive multimodal middle- and high-school interventions that rely on teaching skills and operant conditioning principles, in addition to an intensive summer treatment program are the most evidence-based psychosocial interventions for managing pediatric ADHD.
- While showing some promise, more research is needed on nontraditional social skills training for children and cognitive-behavioral treatment interventions for adolescents before recommendations can be made.
- Psychosocial interventions should be used in conjunction with medication management.

INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is the most common reason for referral to child and adolescent psychiatry clinics, and affects approximately 5% to 10% of youth worldwide.[1,2] The defining features of ADHD include developmentally inappropriate and impairing levels of inattention and/or hyperactivity-impulsivity that begin before age 12 years and cannot be better explained by other factors (eg, anxiety, defiance).[3] The academic,[4] social,[5] and family[6,7] domains are generally the most impaired in children with ADHD. Once considered to be a condition that children outgrew in adolescence,[8] there is now compelling evidence that ADHD often continues into adolescence and adulthood.[9,10] Though sometimes portrayed as a benign condition

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Department of Psychology, Syracuse University, 802 University Avenue, Syracuse, NY 13244, USA
E-mail address: kmantshe@syr.edu

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Abbreviations	
ADHD	Attention-deficit/hyperactivity disorder
BPT	Behavioral parent training
CBT	Cognitive-behavioral treatment
CHP	Challenging Horizons Program
DRC	Daily report card
HOPS	Homework, Organization, and Planning Skills program
IEP	Individualized education plan
MTA	Multimodal Treatment of ADHD study
SST	Social skills training
STP	Summer treatment program

in the popular media,[11] ADHD is an impairing psychiatric disorder that imparts considerable lifetime economic costs (medical, education, legal, and so forth) that rival the costs for major depressive disorder and stroke.[12]

FRONT-LINE INTERVENTIONS FOR ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Given the chronic nature of ADHD, both pharmacologic and psychosocial interventions are used to manage the disorder. A front-line intervention is stimulant medications, which are effective in approximately 80% of youth with ADHD.[13] Stimulant side effects can include decreased appetite and increased sleep-onset latencies and, while positively affecting the core ADHD symptoms (eg, inattention, impulsivity), stimulants generally do not normalize peer relationships,[14] lessen family dysfunction,[15] or improve academic achievement.[16] The use of conjoint psychosocial treatments with ADHD medications can result in the need for lower doses of each form of treatment.[17] Parents are also more accepting of and interested in treatments that include psychosocial components.[18] For all these reasons, psychosocial interventions have continued to play a prominent role in the management of youth with ADHD.

For the purposes of this article, psychosocial interventions are defined as any intervention that stresses psychological or social factors rather than biological variables. This is not to say that biological treatments (eg, medication, dietary modifications) do not have a place in ADHD management; most treatment guidelines recommend medication as a front-line intervention.[19] Several stimulant (eg, methylphenidate, amphetamine salts) and nonstimulant medications (eg, guanfacine, atomoxetine) are approved by the US Food and Drug Administration for ADHD management, with large effect sizes (Cohen $d = 0.9$) reported for stimulant medications.[20] Likewise, although with smaller effect sizes (Cohen $d = 0.3$), dietary interventions, including single nutrient supplements,[21] multinutrient supplements,[22,23] and supplementation with omega-3 fatty acids,[24–27] have received more empirical attention in the past 10 years and are now used more in ADHD management. Nonetheless, these biological interventions are not be considered in this review.

Biological treatments such as stimulant medications explicitly target ADHD symptoms, not functional impairments. However, it is functional impairments, not symptoms, which compel parents to seek treatment for ADHD.[28] As a group, the psychosocial interventions reviewed herein target functional impairments as the intervention goal.

In addition to this common factor, the psychosocial interventions for ADHD management considered in this article all share another common factor: the heavy reliance on behavioral therapy techniques and operant conditioning principles. Research demonstrating that children with ADHD are less responsive to inconsistent, delayed,