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Strategies for Implementing Evidence-Based Psychosocial Interventions for Children with Attention-Deficit/Hyperactivity Disorder

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Attention deficit hyperactivity disorder (ADHD) is a highly prevalent, chronic disorder affecting millions of children. Current prevalence estimates range between 5% and 10% of the child and adolescent population in the United States.[2,4,59] The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (*DSM-IV, TR*)[2] defines three subtypes of ADHD: ADHD, Combined Type (i.e., elevated symptoms of inattention and hyperactivity/impulsivity), ADHD, Predominantly Inattentive Type (i.e., symptoms of inattention in the absence of clinically significant symptoms of hyperactivity/impulsivity), and ADHD, Predominantly Hyperactive/Impulsive Type (i.e., symptoms of hyperactivity/impulsivity in the absence of symptoms of inattention).

Children with ADHD frequently experience impairment related to academic performance (e.g., lower achievement test scores, higher rates of grade retention)[6,47] and social interactions, including strained relationships with parents, siblings, teachers, and peers.[25,34] Because of challenging classroom behavior (e.g., significant time off-task, frequent rule violations, failure to comply with teacher instructions),[3] teachers often spend a significant amount of time providing supports to children with ADHD, which may result in conflict in the student-teacher relationship.[25] Also, due to behavioral difficulty at home, children with ADHD frequently have stressful and conflicting interactions with their parents, which negatively impact parent-child relationships and parents' ability to support their children's education.[4] In addition, conflict between families and schools is common among children with ADHD, which further contributes to school problems. This conflict may result from parental dissatisfaction with the teacher's attempts to meet the educational needs of the child, as well as teacher concerns about the child's disruptive behavior in the classroom and strained communications with parents.[25] Additionally, parents of children with ADHD often feel less effective in their efforts to support their children's education and feel less welcome in schools compared with the parents of children without ADHD.[67] Thus, because students

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with ADHD experience considerable educational impairment and challenges relating to parents and teachers, there is a need for a comprehensive intervention plan that targets the child's behavior at home and school, academic performance, and parent-child and family-school relationships.

Treatments to support children with ADHD include pharmacotherapy, most commonly stimulant medication, and psychosocial interventions that are implemented at home and school, including strategies to support family-school collaboration. Psychosocial interventions include strategies to address performance deficits (i.e., situations in which the child knows how to perform a particular skill but does not do so consistently) and skills deficits (i.e., situations in which the child does not yet posses a skill or performs the skill suboptimally). Interventions aimed at performance deficits include environmental adaptations and accommodations to intervene at the point of performance, such as techniques to modify the antecedents and consequences in the environment to change child behavior.[56] Interventions aimed at skills deficits include direct instruction and increasing opportunities for repeated practice of new skills. The purpose of this paper is to describe evidence-based psychosocial interventions (EBIs) targeting both performance and skills deficits that can be applied to address the educational needs of children and adolescents with ADHD. (Key references for school practitioners are identified with an asterisk. Resources are provided in Box 1.)

Box 1

Key Resources

School wide Interventions

OSEP Center on Positive Behavioral Interventions and Supports: Effective School-wide Interventions: www.PBIS.org

Special Accommodations

National Resource Center on AD/HD, Children and Adults with ADHD (CHADD): http://www.chadd.org/

Token Economy/Point Systems

Center for Children and Families: http://ccf.buffalo.edu/pdf/school_daily_report_card.pdf

National Initiative for Healthcare Quality (NIHCQ) – ADHD Toolkit: http://www.nichq.org/resources/adhd_toolkit.html

Social Skills

Children and Adults with ADHD (CHADD): http://www.chadd.org/Content/CHADD/EFParents/SocialSkillsforChildren/default.htm

Behavioral Parent Training

Parent-child interaction therapy (Bell & Eyberg 2002); http://pcit.phhp.ufl.edu

The Incredible Years (Webster-Stratton, 2005); www.incredibleyears.com

Family School Partnerships

Conjoint Behavioral Consultation: Promoting Family-School Connections and Interventions [68]

School Intervention Strategies

In many ways, schools are the ideal setting for the implementation of interventions for ADHD. School-based services are easy to access by children and are provided in a normalized setting in which the stigma often associated with receiving behavioral health services in traditional clinic settings is minimized.[54,71] Schools are the setting of choice for the implementation of EBIs aimed at preventing or minimizing academic, peer-social, and behavior problems, which are common areas of impairment in children with ADHD.

Children with ADHD often do poorly in unstructured and unpredictable environments. A basic recommendation for teachers is to make the classroom environment more structured and more predictable for children with ADHD. As a group, children with symptoms of ADHD are more likely to exhibit disruptive and rule breaking behavior. These children are less likely to require disciplinary intervention, and are more likely to work up to their academic potential when school professionals establish clear behavior rules and a system of consequences that are applied consistently in all areas of the school.

School-Wide Strategies

A growing number of schools around the country have been experimenting with school-wide approaches to improving school climate. Some of these programs have been found to be effective in reducing the need for school disciplinary actions, decreasing the incidence of behavior problems, and making schools safer. Two of these approaches are Response to Intervention (RTI)[18,33,73] and Effective Behavioral Supports (EBS) or School-wide Positive Behavior Support [10,28,36,46,72,74], referred to as positive behavior support (PBS) hereafter. Given its emphasis on targeting school climate, PBS is highlighted.

Positive Behavior Support (PBS)—PBS is a service delivery system for prevention and intervention for all children. PBS has been defined as “a systems approach to enhancing the capacity of schools to adopt and sustain the use of effective practices for all students”(p. 4).[46] The practices and systems of PBS are organized along a three-tiered continuum of prevention with a behavioral theoretical orientation and the empirical foundation of applied behavior analysis (ABA). Primary prevention strategies focus on preventing new cases of problem behaviors by using school-wide (universal) strategies such as school-wide discipline, classroom-wide behavior management, and effective instructional practices. Emphasis is placed on teaching all students key behavioral expectations and routines and creating a proactive means of communication for students and school staff. This is the most common application of PBS. Some PBS programs also offer targeted group-based support for at-risk children (secondary prevention) and individualized support for more severe cases (tertiary prevention).

Use of Expert Consultants—With some training and support, EBIs for ADHD can be implemented by teachers and behavioral health staff.[64] Expert consultants such as child and adolescent psychiatrists, school and clinical psychologists and other behavioral health professionals can play an important role in the deployment of EBIs for ADHD in the school setting. They can assist school districts with the development of systems and mechanisms for the use of EBIs and provide training and support to behavioral health staff. The same approach can be used for ensuring that interventions are implemented in a culturally sensitive manner.

An efficient and cost-effective method that has the potential to affect many schools within a district is the “train the trainer” approach. In this approach, the consultant trains and supervises senior clinicians in the district who have the responsibility for providing support to individual behavioral health staff. Some school districts around the country already

employ similar systems, particularly those that have adapted PBS. In the typical deployment of PBS to a new school, a leadership team is created and its members are trained and supported throughout the process of developing and implementing universal and targeted interventions in the school. A key member of the PBS leadership team is the PBS coach. The PBS coach, usually a professional who has received training in applied behavior analysis, is responsible for supporting school personnel in the actual implementation of interventions by helping troubleshoot barriers and providing technical assistance. With some modifications to address the needs of children with specific disorders such as ADHD, PBS coaches can be trained to provide support to behavioral health staff and teachers in the implementation of universal and individualized behavioral interventions for the classroom and other areas of the school. For example, the PBS coach could be trained in the use of interventions that address performance and skills deficits that can be implemented in a multi-tier program to improve school climate and to serve the unique needs of children with ADHD. Similarly, the PBS coach can be trained in the formation of school-home partnerships and the use of conjoint behavioral consultation (CBC). CBC is a structured problem solving process in which parents and teachers work as partners through the four stages of behavioral consultation: (a) problem identification, (b) problem analysis, (c) plan implementation, and (d) plan evaluation.[68] CBC has been found to be effective for externalizing behavior problems at home,[30,40] behavioral control at school,[78] and social skills development with peers as rated by parents and teachers.[12] In this manner, the expert school consultant could have a great impact on the way children with ADHD are supported throughout an entire school district. This type of service could be reimbursed using various federal and state funding mechanisms as well as by research or training grants from federal agencies.[21]

Strategies to Support Individual Students

In addition to PBS strategies, which are designed to address the behavioral performance of all students in the school, teachers of students with ADHD are often charged with the task of adapting classroom routines and expectations in order to minimize the effects of the individual student's deficits on performance. This is often done via an Individualized Education Plan (IEP) provided in the context of special education or an individualized service plan under Section 504 of the Rehabilitation Act of 1973[17], and it involves modifications to routine classroom work, tests and quizzes, and homework assignments for the child with ADHD. Common special accommodations for the classroom include using a modified seating arrangement whereby the child sits closer to the teacher and away from sources of potential environmental distractions, such as doors, windows or other children with attention problems, and using a private attention cue by the teacher to prompt the student to stay on-task.[55] Also, students with ADHD can be given extended time for completing tests or allowed to take tests in a quiet room.[45] Checking assignment books for accuracy and reducing homework load or individualizing homework assignments can also be used.

As a group, children with ADHD lag behind their peers without ADHD in performance and on the acquisition of important skills that affect academic productivity, classroom behavior, and peer relations. Compared to children without ADHD, children with ADHD are more likely to have impaired planning ability, poor sense of time and inaccurate time estimation, lack of effort and motivation, poor self-regulation of emotion, greater problems with frustration tolerance which result in academic performance problems, disruptive classroom behavior, and peer difficulties.[5] These deficits are generally chronic. Many interventions have been proven to be effective, but gains are sustained only if interventions remain in place in the settings and during times when the child experiences difficulties.[5,31] Given that most difficulties experienced by children with ADHD occur because of performance

deficits, most interventions are geared toward enhancing performance, such as improving impulse control or time on-task.[56] For children who lack skills in the first place, interventions are focused on teaching new skills such as social and organizational skills.[44] Most effective school-based interventions for ADHD are designed to affect the antecedents and/or consequences of behavior. An example of an antecedent of a behavior would be the way in which a teacher gives a command to a student.[75] Consequences can be defined as responses that follow a behavior that has the effect of either increasing or decreasing the probability that the behavior will occur again.[75]

Positive Reinforcement—There are many interventions that involve a modification of antecedents and consequences. Although many of the interventions based on the modification of antecedents and consequences have traditionally been included in parent training programs, they are also used in schools and can be taught to teachers. These strategies are based in social learning theory and are used to teach teachers how to alter the antecedents and contingencies in the environment to shape child behavior. Many empirically-supported programs include components such as (a) setting consistent limits and reasonable expectations, (b) giving instructions in a clear and consistent manner, (c) providing positive reinforcement contingent on appropriate behavior, and (c) using effective and strategic consequences for specifically identified inappropriate behavior.[23] Teachers learn how to set limits and give instructions that are specific, clear, and brief; focus on behaviors that are within the child's control; and develop expectations that are developmentally appropriate for the child.[7,50] Also, a primary goal of behavioral intervention programs is to increase teachers' use of positive reinforcement contingent upon appropriate behavior. Specifically, teachers can provide attention and verbal praise as positive reinforcement when students demonstrate expected behavior, and systematically ignore inappropriate behavior (i.e., differential attention). Teachers learn that attention, especially when delivered immediately following appropriate behavior (i.e., at the "point of performance"), can increase the likelihood of a desired behavior and that the goal of ignoring behavior is to decrease the frequency with which it occurs.

Positive attending (i.e., making positive statements in response to appropriate child behavior) is highly useful in strengthening the teacher-child relationship. Because children with ADHD frequently receive negative feedback from teachers due to inappropriate behavior, teacher-child relationships are frequently strained. As teachers learn how to utilize positive attending more regularly, interactions between teachers and children become more positive.

Token economy—Token or point systems require teachers to dispense tokens (e.g., poker chips, stickers) or points to any student in the class (as a classwide intervention) or to individual students with ADHD (as an individualized intervention) for exhibiting previously determined behavior. This intervention can be used for increasing on-task behavior or appropriate classroom behavior. The reinforcement can be delivered immediately after the student exhibits the behavior or at another specified time (e.g., at the end of a class period). It is very important that the teacher target a very specific skill or behavior as opposed to more general or global behaviors (e.g., "raising hand before speaking" as opposed to "behaving well in class"). This intervention is more effective when it is paired with a reinforcement system in which the student can exchange tokens or points for preferred activities or small prizes. Also, the token/point system intervention is more effective when the child is given the opportunity to choose from a menu of reinforcements and when the system is consistently implemented by teachers.[15,56] Some children with ADHD respond to the token/point system only when the intervention combines positive reinforcement and response cost.[9] In this variation of the token/point system, the child can earn points or other reinforcers for exhibiting a specified desirable behavior but loses them when he exhibits a

specified undesirable behavior. This combination is effective because it offers the child the opportunity to earn back lost tokens/points by exhibiting the desirable behavior.

Daily Report Card (DRC)—The DRC is a behavioral intervention with strong research support[22,53] that can be developed using the CBC model. This intervention requires planning that involves the school and the family with input from the child, implementation with elements involving the teacher and parents, and evaluation of implementation quality and outcomes. See Box 2 for guidelines related to developing a DRC. As indicated in Step 5, monitoring quality of implementation and child progress toward behavioral goals are important components of the intervention process. When the DRC intervention is not implemented properly, its effectiveness can be compromised.[22,53] Implementation quality can be monitored by reviewing completed DRCs on a periodic basis to determine (a) whether it has been completed by teachers each day, (b) whether the child has delivered the DRC to the parents each day, (c) whether the parents evaluated child performance in relationship to an established goal, and (d) whether reinforcers have been administered as planned. With regard to monitoring outcomes, a strategy that is easy to use is to keep track of the number of points earned by the child on the DRC each day or calculate the percentage of days for which the child attains his or her goal. For cases in which implementation quality of the DRC in the home setting is inconsistent, it may be possible to conduct the evaluation and reinforcement phases of the intervention at school.

Box 2

Constructing a Daily Report Card (DRC)

Step 1: Identify 2 or 3 target behaviors.

- These should be adaptive behavior for the classroom (e.g., “complete work in time allotted”) rather than non-adaptive responses (e.g., “fails to complete work”).
- Consider including the child in the process to increase child investment.

Step 2: Identify a method for recording child behavior.

- Option 1: Tally the occurrence of target behavior (this option is more challenging for teachers – consider feasibility issues).
- Option 2: Rate the child’s behavior on a 3- or 4-point scale at designated times (e.g., 0 = met goals 0–25% of the time to 3 = met goals 75–100% of the time). Ratings should be given at several times throughout the day (e.g., at the end of each class period).

Step 3: Educate parents about the use of the DRC

- Set reasonable goals for child behavior each day. Goals should be about 10% higher than baseline performance.
- Reinforce the child for goal attainment. The child might earn privileges at home each time he or she reaches a goal at school.

Step 4: Educate the child about the DRC goals, parent, teacher,and child roles, and opportunities for rewards contingent on appropriate behavior

Step 5: Monitor implementation and outcomes

- Review completed DRCs to ensure proper daily use by parents and teachers

- Adjust goals according to child progress

Considerable evidence supports the effectiveness of the DRC intervention with children who have ADHD and related behavioral problems. In addition, the DRC has been found to be an intervention approach that is highly acceptable and feasible for teachers.

Self-management—Self-management, which includes self-monitoring and self-reinforcement, can be an effective intervention for maintaining and generalizing behavioral gains made through the use of the token/point system, especially for older children.[13,14,65] In this intervention, children are taught to recognize and record instances of on-task behavior following an auditory or visual stimulus at time intervals (e.g., a beep from a recording device or a hand signal from the teacher).[15] Initially, the teacher keeps a parallel count of the student's on-task behavior in order to assess the accuracy of the student's own recording. As the student becomes more accurate in recording the presence of the target behavior, the involvement of the teacher is gradually phased out until the student is in complete control of the intervention. Self-management can be used in conjunction with an incentive system through which the student can reward himself for reaching certain target goals.[15] This intervention can be used to increase on-task behavior but also to improve academic accuracy and organizational skills.[26,27]

Social Skills Training—There has been a considerable amount of research on the effects of social skills training for children with ADHD.[24,58] For the most part, studies have shown that social skills training can be effective, but only when it is part of intense, multimodal behavioral interventions focusing on multiple areas of impairment and conducted within the child's social milieu.[57] Traditional social skills training conducted in clinical settings, away from the environments where these children have relationship problems, lack social validity and, for the most part, result in little to no improvement in social functioning.[56] In contrast, a growing body of evidence shows that participation in the intense programming offered in summer treatment programs (STPs) for children with ADHD, such as the one used in the Multimodal Treatment Study for ADHD,[57] results in long-lasting improvement in behavioral functioning, social skills and peer relations. These interventions are typically conducted for 6–8 hours a day, five days a week, for a period of many weeks. The STP interventions involve social skills training followed by coached recreational activities and the use of contigency behavior management systems, such as token/point systems and concurrent home rewards given to the child by the parents for meeting goals related to peer relations. The behavioral effects of STPs on children's externalizing behavior and peer relations are comparable to those obtained through psychostimulant medication treatment.[65]

Organizational skills training—Children with ADHD frequently have difficulty in organizing materials, which can impact performance at school and at home (e.g., failure to bring home materials necessary for homework, failure to return completed assignments to school).[42,62] If children with ADHD do not learn effective organizational skills, they are likely to continue have difficulties into adulthood which can impact post secondary education and/or employment function.[8] Although medication treatment results in improved organizational skills for some children with ADHD, many children with ADHD who are treated with medication continue to display deficits in this area.[1]

Strategy training involves teaching students academic strategies or skills that can used to improve academic performance.[20] Most of these interventions target students' ability to take accurate notes, organize their school materials and organize their study time more efficiently.[20,43] Organizational skills training aims at giving the student more responsibility and a sense of ownership of academic performance and lessening the involvement of

teachers and parents. These interventions have been developed in recognition of the increased demands placed on middle school and high school students to understand and synthesize materials from classroom lectures in multiple subjects.[70] For example, studies have been conducted with adolescents with ADHD in which they were taught how to take notes during classroom lectures, how to write down homework assignments with accuracy, how to organize their school binders and other school materials, and how to memorize information to help them study for tests and exams.[63] As with other interventions for students with ADHD, the effectiveness of organizational skills training is enhanced through the use of contingency reinforcement.

Behavioral homework interventions—These interventions are designed to address problems with homework completion, which are highly prevalent among children with ADHD.[49,62] Homework is a fruitful target for intervention because improving homework performance has the potential to improve the family-school relationship and contribute to academic success.

Homework interventions have two primary elements: antecedent strategies that create the context for homework performance, and consequences, which refer to the contingencies of homework behavior. Antecedent strategies include teacher assignment of a reasonable amount of homework given the child's age, developmental ability, and attention skills, as well as teacher assignment of work that can be completed by the child with minimal parental instruction and supervision (i.e., reinforcement learning, not new skill acquistion). Antecedent strategies also involve establishing a place for homework that is relatively free from distraction and delineating a time for homework that is responsive to times of the day during which children are most attentive and parents are able to monitor homework carefully.[60]

Homework strategies that address both the antecedents and consequences of homework are goal setting and contingency contracting. [35,51] These strategies have multiple steps. First, when it is time for homework, the parent and child review together the assignments and break up the work into manageable subunits that can be completed before taking a brief break. The length of the subunits might vary from 5 minutes for a first grader to 20 minutes for a fifth grader, although this assumes a relatively good attention span. Second, the parent and child select the first subunit to work on, which is typically an assignment that is relatively easy for the child, which helps to build momentum for completing other assignments. Before working on the subunit, the parent and child look over the assignment and mutually identify reasonable goals for number of problems to be completed, number of correct responses, and amount of time.

Third, before beginning each assignment, the parent checks to make sure the child understands the directions and knows how to complete the task. Then, the parent sets a timer and the child begins work. While the child is working, it is important for the parent to monitor child performance carefully, reinforce attention and effort periodically, and refrain from reinforcing avoidant or inattention behavior. Fourth, when the time has expired, the parent and child evaluate work completion and accuracy and compare performance to goals. If the child reaches the goals, he or she earns points that can be exchanged later for privileges. If the child fails to achieve the goal, or achieves accuracy but does not complete all the work, the child is requested to move to the next assignment and not go back over the work. In this way, all the homework assignments can be completed in a reasonable amount of time. In these cases, it is important for the parent to communicate with the teacher so that the child is rewarded for effort and does not get penalized for incomplete work.

Computer-assisted instruction—Children with ADHD frequently exhibit academic skills deficits, including problems with comprehension and retrieval of basic facts. If tasks are novel and stimulating, structured to match the child's individual instructional level, and children receive regular feedback about their performance[17,79] then children with ADHD tend to exhibit increased academic success. Computer-assisted instruction (CAI) is one strategy that may provide the necessary conditions for supporting the academic skills development of children with ADHD.[48,52] CAI allows for lessons and specific goals to be tailored to each child's instructional level, the learning environment tends to be more stimulating than typical paper and pencil classroom tasks, and children receive immediate feedback from the computer about the accuracy of their responses.[48]

Special Considerations

Most of the intervention strategies described in this chapter are appropriate for elementary-age children with ADHD, reflecting the preponderance of research conducted with this age group. Less research has been conducted with preschool-age children and even less with adolescents who have ADHD. Several factors are important to consider when developing or adapting interventions for preschool and adolescent youth.

For preschoolers, a useful strategy to strengthen the parent-child relationship or the teacher-student relationship is for parents or teachers to engage children in non-directive play, which involves carefully observing the child's play, refraining from making directive statements, and affirming creative elements of the play.[77] When using reinforcement strategies with this age group, it is especially important to administer reinforcers as soon as possible after the desired behavior occurs and to do so using salient, concrete reinforcers. If response cost is used as a method of punishment (e.g., taking away a desired toy), the duration of withdrawal required is typically very brief to be effective.[16]

For adolescents, strengthening the parent-child or teacher-student relationship might involve giving the youth a chance to "show-and-tell" about an exciting event and listening carefully. When designing goal setting strategies and contingency contracts, it is essential to collaborate closely with the youth and negotiate the terms of the arrangement. Points can be administered as reinforcers, and these can be exchanged for privileges administered at a later time (e.g., on the weekend). When identifying suitable consequences, it is often helpful to negotiate with the youth up front so they know what to expect when expectations are not met.[66] Organizational interventions have been developed for middle school and high school students with ADHD and these can be highly effective in completing homework, organizing the school binder, and keeping track of the school schedule.[41] School support in the form of a check in teacher or guidance counselor can be very helpful in implementing and sustaining organizational interventions.

Schools in the U.S. have become increasingly diverse during the past 20 years. By the year 2019, it is estimated that ethnic minority students will comprise 50% of the total public school student population.[29] Research has consistently shown that low-income and ethnic minority families are less likely than non-minority families to seek and utilize services for ADHD.[11,37] If these families do initiate treatment, they are often at risk for early termination.[38] Although research assessing the unique effects of culture and socioeconomic status on service utilization is lacking, most investigators agree that assessing families' opinions and attitudes about the causes and the treatment of ADHD, is necessary in order to develop a treatment plan that these families are likely to follow.[19] Also, low-income and ethnic minority families may be more likely to stay in treatment if they are involved in the development and implementation of the interventions. A strategy that is appropriate for use by school behavioral health staff and that involves families is the formation of school-home partnerships.[76] A partnership approach, such as CBC (described above), greatly facilitates

the adoption of culturally sensitive interventions because the parent, who is given equal standing in the relationship with school personnel, can contribute to the development of interventions that are congruent with their expectations about treatment and school goals.[68,69,76] The use of school-home partnerships is not common outside demonstration projects and few behavioral health staff have been trained in the use of CBC. However, this and other promising models of service delivery could be deployed more widely in school settings to great positive effect with the aid of expert consultants.

Pharmacological interventions, including stimulants and some non-stimulant options such as atomoxetine, are effective in the treatment of ADHD. Although medication alone can be effective in treating the symptoms and impairments associated with ADHD, there is often an advantage to combining medication with behavioral intervention especially with regard to improving areas of impaired executive functioning.[32] Further, families typically view medication as an acceptable form of intervention when it is used in combination with behavior therapy.[39] The selection of an initial approach to treatment (i.e., medication alone, behavior therapy alone, combined treatment) is based upon shared decision making involving the family, school professionals, and the health care team, taking into consideration the child's likelihood of responding favorably, potential for adverse effects, treatment history, and family beliefs and preferences for intervention. Subsequent decisions (e.g., decision to combine medication with behavior therapy) is based upon response to previous attempts at treatment and family beliefs, which can vary during the course of intervention.[61]

Conclusion

An extensive amount of research has demonstrated the effectiveness of psychosocial interventions for children with ADHD. Historically, the research has focused on interventions targeting problems in the home or school setting, but more recent research has highlighted the importance of family-school partnerships and conjoint approaches to intervention involving family and school. Effective approaches to psychosocial intervention consist of strategies to address performance deficits, promote adaptive behavior, and improve children's self-control, academic, and social skills. Although most of the research has focused on interventions for elementary-age children, there is an increasing emphasis on developing and validating approaches for younger and older children. With preschoolers there is greater emphasis on addressing performance deficits, and with adolescents there is increased emphasis on skill building and generalization of skills across settings. In addition, there is a strong need to adapt psychosocial interventions so that they are meaningful and acceptable to families of diverse ethnic backgrounds; fostering strong family-school partnerships is a key strategy for developing culturally effective psychosocial interventions for ADHD. Finally, given the abundance of evidence supporting the effectiveness of medication as well as psychosocial treatments for ADHD, integrating both approaches to interventions is often the optimal approach. There is considerable evidence to indicate that combined approaches are more effective in reducing ADHD symptoms and related academic and social impairments than separate treatments.

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