The Role of Psychosocial Therapies in Managing Aggression in Children and Adolescents

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Aggression in children and adolescents is a serious problem and is associated with various psychiatric disorders, not just conduct and oppositional defiant disorders, but in fact, most psychiatric disorders. Currently, while a growing base of data supports an important role for pharmacologic treatments in managing aggression, studies have also shown that psychosocial therapy in conjunction with medication may be more effective in treating aggression than medication alone in many patients. According to recently published treatment guidelines on the management of aggression, psychosocial approaches should always be implemented first, with pharmacotherapy added later if necessary. This article details the risk factors and protective factors associated with aggression in children and adolescents, describes the evidence base for the use of psychosocial therapy for the management of aggression, and discusses various psychosocial therapy approaches that may be effective in treating aggressive children and adolescents. *(J Clin Psychiatry 2008;69[suppl 4]:37–42)*

What is the best way to manage aggression in children and adolescents? This major question has often perplexed child and adolescent psychiatrists, pediatricians, psychologists, parents, and others who work with children and adolescents. While researchers have made important recent advances in our understanding of the effectiveness of pharmacologic therapies for aggression, psychosocial treatments still must play the primary role for therapeutic, practical, and ethical reasons. For example, studies[1,2] have shown that psychosocial therapy in conjunction with medication is often more effective than medication alone in treating aggression in children with attention-deficit/hyperactivity disorder (ADHD) with comorbid internalizing disorders (anxiety or depression) as well as disruptive behavioral disorders, conduct disorder, or oppositional defiant disorder. This article briefly reviews some of the key risk factors related to the development of aggression and outlines psychotherapeutic approaches that address these risk factors as well as aggressive behavior per se. Psychosocial therapies, whether used adjunctively with pharmacotherapy or as a monotherapy, help to manage aggression by targeting specific risk factors and aggressive behaviors with behavioral, anger management/self-control, and problem-solving strategies.

From The REACH Institute (REsource for Advancing Children's Health), New York, N.Y.

This article is derived from the planning teleconference series "The Use of Atypical Antipsychotics in Pediatric Psychiatric Disorders" that was held in October and November 2007 and supported by an educational grant from Bristol-Myers Squibb Company and Otsuka America Pharmaceutical, Inc.

Dr. Jensen has received grant/research support from McNeil; has received honoraria from UCB, Janssen-Ortho, and McNeil; is a member of the speakers/advisory boards for UCB, Janssen-Ortho, McNeil, and Shire-Richwood; and is a stock shareholder of Eli Lilly.

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DEVELOPMENT OF AGGRESSION

The development of aggression in children and adolescents is associated with certain risk factors. However, the presence of certain protective factors may help the patient achieve better outcomes.

Risk Factors

Multiple types of risk factors interact to impact a child's developmental trajectory for aggressive behavior.[3] These risk factors may be divided into the following categories: child and family, neighborhood, peer, and environmental.

A host of biological, psychological, and social factors have been identified that can put a child at risk for becoming aggressive.[4] Thus, prenatal factors, such as maternal substance use and severe nutritional deficiencies, can contribute to child aggression. Birth complications, genetic factors, high cortisol reactivity, and difficult temperament can also predict later child aggression, but only in interaction with environmental factors such as poverty or harsh parenting. Psychological risk factors, such as social cognitive processes and emotional regulation, emerge later in childhood and adolescence, not just as a partial consequence of heredity and other biological factors, but also as important causes in their own right.

Neighborhood risk factors include high crime rates and low social cohesion.[5] Middle childhood may be a critical developmental stage during which neighborhood factors may have a heightened effect on the development

of aggression and other antisocial behavior problems.[6] Community-level variables, such as community violence, can have direct and indirect effects on children's conduct problems.[7,8]

Peer factors are some of the most important predictors of later childhood aggression. Peer rejection in elementary school is both a cause and an effect of childhood aggression.[9–11] In addition to aggression, peer rejection predicts delinquency, dropping out of school, internalizing and externalizing disorders, adolescent pregnancy, and substance use. Children who are rejected from the broad peer group may then become involved with deviant peers, which is a critical peer risk factor for aggression by adolescence.

Other environmental risk factors for developing aggression include directly experiencing or witnessing aggression as a child. When coupled with family factors such as parental psychopathology and harsh parenting, these risk factors become strong predictors that the child will exhibit aggressive features himself or herself.

Developmental Sequencing of Risk Factors

As children grow older, they may progress into higher levels of risk, such that multiple risk factors may accrue over time. The longer a child has been influenced by these risk factors, the more stable these negative influences become, making it more difficult to intervene in and resolve the child's aggressive behavior. As a result, later interventions must often address more risk factors. Thus, early interventions are ideal because they can impact a child's aggressive behavior before additional risk factors accumulate.

Factors Associated With Good Outcomes

The protective factors for aggression mostly concern parenting. Supportive parent-child relationships,[12,13] the use of positive discipline methods of praise and reward,[13–15] ongoing monitoring and supervision,[16–18] family advocacy for the child,[19] and seeking information and support for the benefit of the child[20] are all associated with lower levels of aggressive and disruptive behavior.

Both children in the general population and those at risk for behavior problems have better outcomes if their parents make healthy attributions about them and use effective discipline strategies.[21] Other predictors of good outcomes include high maternal self-esteem and high paternal parenting efficacy.[22] Children also have better outcomes if they feel accepted by their peers and confident in their social abilities.[23]

STABILITY OF AGGRESSION

Is aggression a stable behavior pattern, or can it be changed by interventions? A study by Nagin and Tremblay[10] followed a sample of 1037 boys from 6 to 15 years of age to determine the developmental trajectories for 3 externalizing behaviors, including physical aggression. They found that a subgroup of boys with chronic aggression who had early-onset aggression in childhood were most at risk to exhibit physical violence in adolescence. Their aggression was predicted by the risk factors described above. Other developmental trajectories included high levels of aggression that desisted over time, low levels of aggression that desisted over time, and no aggression.

Although absolute rates of aggressive behavior decline in normative samples after age 2, aggressive behavior is often a relatively stable individual difference variable from age 2 through early childhood.[4] Aggressive behavior during early childhood also predicts adolescent delinquency, substance use, and school problems. Thus, whenever possible, early interventions should target aggressive children in early childhood, addressing the malleable risk factors that produce and maintain aggressive behavior.

WHEN TO USE PSYCHOSOCIAL INTERVENTIONS

Whenever appropriate and feasible, employing nonpharmacologic interventions to address target symptoms is the preferred first-line treatment for children who are diagnosed with any psychiatric disorder.[24] Although the exact therapeutic approach will depend on the diagnosis and individual circumstances, clinicians should implement evidence-based psychosocial therapies as first-line treatment. Several evidence-based psychotherapies exist for the treatment of particular conditions (e.g., cognitive behavioral therapy [CBT] for depression/anxiety).[25] Evidence-based approaches for the treatment of aggression and conduct disorder include various types of parent management training, functional family therapy, and multisystemic therapy.[26,27] Even when access to evidence-based treatments is limited, preference should be given to therapeutic approaches that best approximate evidence-based behavioral principles.

Experts generally agree that target symptoms should be assessed regularly throughout psychosocial treatment and that psychosocial approaches should be continued even if medication is eventually needed to address the child's behavioral difficulties. Medication should never be viewed as a substitute for the essential prerequisite strategies of psychosocial and educational approaches.[28]

Given the complex issues surrounding prescribing atypical (second-generation) psychotropic agents for children and adolescents with aggression, specific treatment recommendations and treatment plans are warranted. The Treatment Recommendations for the Use of Antipsychotics for Aggressive Youth[24,28] is a useful clinical guide. Whether in inpatient, outpatient, or even juvenile justice settings, medication should only be used in combination with strategies that employ a strong therapeutic relationship and empathy, as well as behavioral approaches such as frequent

reminders and rewards for good behavior. Psychological and environmental attempts to de-escalate a child's aggression, anticipate circumstances in which a child might become aggressive, and remove a child or adolescent from a situation in which he or she is likely to become aggressive are part of a successful treatment strategy.

Under the most severe conditions in inpatient settings, the use of sedative medications or restraints might be warranted. With children, the delivery method of medications may be as powerful as the medication itself; in a study of 21 inpatient children and adolescents in acute dyscontrol, Vitiello and colleagues[29] found no difference in efficacy between diphenhydramine and placebo. However, intramuscular delivery of both placebo and medication was more effective than oral delivery, perhaps because the prominence of the intervention caught the attention of the patients. These findings underscore the importance of not relying on medication alone and using it only when psychosocial and contextual interventions have been employed and found insufficient to address the child's or youth's difficulties.

EVIDENCE BASE FOR PSYCHOSOCIAL THERAPIES

Through a variety of studies and reviews, an evidence base has been established for the efficacy of various psychosocial methods that have shown benefit in reducing levels of aggression as well as other forms of disruptive behavior, including oppositionality and more severe delinquency, in children across different age groups.[30] These interventions are differentially effective as a function of age. Various forms of parent training may have more prominent effects when children are younger.[31,32] For older children, certain forms of CBT, including anger therapies that target psychological development, coping strategies, the child's internal self-monitoring of his or her own anger, and problem-solving approaches, can be effective.[33,34] Various forms of family therapy reduce aggression and associated problems of delinquency in children and adolescents, and intensive interventions such as multisystemic therapy have shown benefit for reducing aggression in children in foster care and in children and adolescents who have been in the juvenile justice system.[35]

Research focused particularly on psychosocial therapies for conduct and oppositional defiant disorder in children and adolescents has resulted in several well-established or promising psychosocial treatments that are mostly based on the principles of behavioral therapy.[30] Parent training[36,37] is a well-established therapy, and promising therapies include parent-child interaction therapy,[38] cognitive-behavioral problem-solving skills training,[34,39] and multisystemic therapy.[40]

Relatively little research has examined the additive benefits when medication is added to psychotherapy, or vice versa. In a few key ADHD studies, however, research on aggression and ADHD indicated that the best outcomes for some youth occurred with combined medication and psychosocial therapy. The National Institute of Mental Health Multimodal Treatment Study of ADHD,[1,2,41] a controlled 14-month trial of 579 children with ADHD, compared pharmacotherapy, behavioral therapy, and the combination of pharmacotherapy and behavioral therapy and found that children with ADHD and aggression responded better to combination therapy than to either treatment as monotherapy. The effects of combined pharmacotherapy and behavioral therapy on aggression were greatest in children with ADHD and comorbid anxiety and disruptive behavioral disorders, with effects twice as large as those in children with ADHD only. Interestingly, the same research team also found that using both psychosocial therapies with medication allowed children to respond to lower overall doses of medication.[42]

BEHAVIORAL THERAPY

In general, the psychosocial approaches most effective for aggression in children and adolescents largely rely on the basic principles and techniques of behavioral therapy. The first important technique, to help the parent, teacher, or other caregiver create a positive relationship with the child, is positive attending, or "catching the child being good." For many children, especially children who begin behaving aggressively, focusing only on the negative behaviors tends to reinforce and increase the child's aggressive behaviors. Positive attending might require the caregiver to ignore low-level negative behaviors and mild levels of irritability or provocation. It also requires modeling of appropriate behavior for the child. The adult should identify target behaviors so the child knows exactly what behavior he or she is being asked to stop.

Another necessary behavioral therapy technique is the establishment of a "behavioral baseline," which entails clearly identifying and specifying a target behavior and then tracking how often that target aggressive behavior occurs on a daily basis over a period of time, such as 2 weeks. The parents, teachers, or other caregivers working with aggressive children are taught to use a positive reward system, including positive attention and praise as well as selective and careful use of punishment. Punishment might include a response cost or, for a higher-level aggressive behavior, a time-out procedure.

In all of the behavioral programs, emphasis is placed on shaping, i.e., not trying to reduce the child's aggression from high to low levels immediately but rather understanding that the child must change over time by changing a habit. Gradually shaping the child to decrease the aggressive behaviors becomes the critical goal, so that the child is progressively rewarded each time he or she shows progress in reducing his or her aggressive behavior. The

concept of shaping is very important because some children with high levels of aggression may have difficulty, due to having a variety of risk factors (such as impulsivity), in completely extinguishing aggressive behavior, and the requirement to completely eradicate aggressive behavior is very difficult. The caregiver working with the child has to learn to reward the child for gradually decreasing the aggressive behavior without expecting it to cease altogether.

Motivational System

The principles of behavioral therapy have to be coupled with a motivational system so that the child wants to decrease his or her levels of aggression. The motivational system is designed to provide a systematic, positive, and consistent approach for increasing appropriate behavior, decreasing problem behavior, and teaching replacement behavior. If a child feels forced or controlled, particularly older children who may not be as influenced by simple rewards and consequences, effective control of aggression can be more difficult.

A motivational system should have a clear and consistent structure with consequences that are proportionate to the degree of the infraction. It is important that the child feels that the reinforcement and consequences are fair responses to his or her behavior. If the behavioral strategies are resisted or resented by the child or seen as coercive, they will be ineffective. It is important that there be a positive relationship between the child and the person delivering the therapeutic procedures, so that, as these strategies are employed, the child becomes an active, willing partner in a collaborative problem-solving process.[43]

Perhaps the best-studied strategy was to encourage the child's collaboration and active participation through the use of positive reinforcement and, perhaps to a lesser degree, response cost and time-out procedures. Positive reinforcement occurs when a child engages in a positive behavior and is rewarded, thereby making that positive behavior more likely to occur in the future. Praising the child for good behavior ("catching the child being good") is a powerful form of positive reinforcement. Response cost and time-out procedures are consequences for aggressive or noncompliant behavior. Response cost procedure means taking away a reward because of a negative behavior. A time-out procedure is used in response to a more acute aggressive behavior against which there was a clear, specified rule; in this procedure, a child is denied access for a period of time to activities that he or she likes. Instead of watching television or playing a game, he or she has to sit on a chair or be in his or her room. The child is put into an environment without positive consequences, with the goal that the child will be less likely to engage in the problem behavior in the future.

Effective consequences should be individualized to the child. For example, being alone in his or her room or sent away from the classroom would be an undesired consequence for some children but a positive reinforcer for others. Also, the consequence must be proportionate to the infraction, immediate, and closely tied to and contingent upon the clearly specified behavior. An effective consequence also must resist satiation by the child; that is, if a positive consequence is no longer positive for the child, it is unlikely to be a useful reinforcer, and the same is true of a negative consequence that the child no longer finds negative. Other strategies to help promote behavior changes include shaping, fading, continuous and intermittent reinforcement, generalization, and discrimination (Table 1).

Table 1. Strategies to Help Promote Behavior Change

Shaping	Reinforce approximations of desired behavior while child is learning new skills
Fading	Gradually remove artificial consequences once child has mastered new skills
Continuous reinforcement	Follow every occurrence of a behavior with consequences to establish the appropriate behavior
Intermittent reinforcement	Occasionally follow an occurrence of a behavior with consequences to maintain an established behavior
Generalization	Teach child that certain behaviors are appropriate and should be used in different environments
Discrimination	Teach child to discriminate between different environments in which the same behavior may not be appropriate

Proactive Teaching

The parent or other caregiver administering the behavioral therapy must proactively teach the child the appropriate behaviors and appropriate targets. This includes specifically labeling a skill to be learned, giving an example of its use, and providing explicit skills steps. The child should be given the rationale behind the appropriate behavior and then given a chance to practice it. Positive consequences should then be provided for successful completion or approximation of the appropriate behavior.

SELF-CONTROL STRATEGIES

Self-control is the ultimate goal of behavioral therapy for aggression. After the behavioral techniques and principles have been put into place by the parents or caregivers, the final goal is for children to clearly understand appropriate and inappropriate behavior, monitor their own use of appropriate behaviors, reward themselves for appropriate behaviors, and use coping strategies to eliminate any negative behaviors such as aggression. Strategies for this self-control include deep breathing, counting to 10, muscle relaxation, and positive self-talk. Other approaches can be taught as a function of actual therapies, particularly in the form of anger control therapy.

The ABC Model of Anger Control Therapy

The ABC model of anger control therapy, first introduced by Ellis,[44] focuses on antecedents, behaviors, and consequences. In the ABC model, children are taught to track and label their specific behaviors and learn what the antecedent or trigger of a particular behavior is, what the actual behavior is, and what the consequence of that behavior is. "A-B-C" is a useful mnemonic for the child, parent, or teacher as a way to remember how to track behavior and employ appropriate consequences, which may primarily include praising appropriate behavior. For younger children or those who cannot be expected to track and label their own behavior, instructions for appropriate behavior should be clear and behavioral rules and expectations are clearly established.

Anger Control Strategies

Basic anger control strategies include identifying feelings and anger cues, gauging and monitoring anger, identifying anger triggers, being aware of anger and its management, making coping statements, and keeping an anger record. A child's anger may also be managed by teaching the child to see situations from another child's perspective. He or she may be taught to think about how his or her angry behavior might affect another person and why the other person might have done what he or she did to trigger the anger. Proactive problem solving is also an important anger control strategy in which the individual is taught to think of all the possible choices he or she has in a particular situation that might normally trigger anger. Once he or she is aware of all the options, he or she may be able to choose to use a nonaggressive approach to solve the problem at hand.

Punishment and Discipline

Caregivers administering behavioral therapy must understand the relationship between punishment and discipline. Discipline comes from the word "disciple," implying that children become disciples and develop internal control because they model themselves after the person who they wish to emulate. They follow the behaviors of a mentor or role model. Punishment, from this perspective, should be administered within the context of helping a child become the disciple of the one administering the punishment. Punishment is not meant to be punitive in the sense of being harsh or angry, but it is simply the negative consequence that is delivered, without any sense of revenge, anger, or humiliation. As a general rule, this form of punishment or consequence should only be used when the misbehavior is occurring and only when the positive strategies are already in place. The child must wish to model the behavior of the person who is conducting the discipline. A caregiver cannot effectively maintain a child's behavior if the relationship between him or her and the child has become adverse and strained.

Physical punishment, as well as severe verbal punishment, is generally ineffective and should be avoided. Physical punishment is usually prompted by parent anger rather than a rational choice to deliver negative consequences, and it provides an aggressive child with model behaviors that are the very behaviors the child needs to decrease. Children's behavior should be controlled as much as possible with rewards rather than punishment. Moderate punishment may be necessary when a child's behavior may hurt himself or others, rewards do not work, or when noncompliance continues at high rates even when rewards are introduced.

Combining Strategies From Various Forms of Psychosocial Treatment

Given the complexity of aggression and the multiple pathways and risk factors underpinning this behavior, psychotherapy innovators have found that it may be necessary and more effective if multiple strategies are employed, drawing on multiple theoretical perspectives. Multisystemic therapy, for example, draws upon family therapy and behavioral therapy perspectives.[26,40] Other recent innovations, such as the Coping Power program,[34] actually combine parent-training behavioral approaches with cognitive self-control (anger control therapy) approaches.

CONCLUSION

Childhood aggression is a serious problem that may be effectively managed through psychosocial and, sometimes, pharmacologic treatment. Medication should not be a substitute for parent training, behavior modification, appropriate school placement and educational curricula, adequate teaching skills, and family treatment. The behavioral therapy approaches for intervening with a child with aggression generally employ the following steps: fostering a positive relationship with the parent or caregiver administering the therapy; paying positive attention to the child; giving a child clear and explicit instructions for appropriate behaviors; establishing rules that are clear; appropriately using timely and proportionate consequences; helping the child to identify feelings of anger and their precipitants; and helping the child problem solve and become a proactive person who wants to change his or her aggressive behavior. In order for these behavioral strategies to work, the positive aspects of the environment must be in place so that a child wants to be good and feels respected and accepted by those administering the intervention program.

In order to reduce childhood aggression, the coercive cycle of aggression in families must be stopped. In this cycle, both the parents and children use aggression in response to aggression. Only by intervening at the various points in the cycle, with both the parent and the child, and sometimes with the appropriate use of medication when there is a significant psychiatric condition that warrants

medication treatment, can psychosocial attempts to manage aggression in children and adolescents be maximized. An important area for future research is the treatment of youths with severe aggression that is resistant to currently available intensive behavioral, anger control, relationship-based, and pharmacologic treatments.

Drug name: diphenhydramine (Benadryl, Simply Sleep, and others).

Disclosure of off-label usage: The author has determined that, to the best of his knowledge, no investigational information about pharmaceutical agents that is outside U.S. Food and Drug Administration–approved labeling has been presented in this article.

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