

Comorbidity in AD/HD

by Sam Goldstein, PhD

THE DICTIONARY DEFINES COMORBIDITY AS THE "SIMULTANEOUS PRESENCE OF TWO CHRONIC

DISEASES OR CONDITIONS IN ONE PERSON." Forty-plus years of scientific research has demonstrated that AD/HD throughout the lifespan represents a condition with one of the greatest psychiatric comorbidities. AD/HD coexists with other conditions at rates well beyond chance levels.

As a condition reflecting impaired self-regulation or poor executive functioning, the core deficits of AD/HD likely act as catalysts increasing the risk of the development of other problems and fueling the severity of these problems when they occur. Comorbidity issues in AD/HD across the lifespan primarily focus in three areas:

- the additional presence of other disruptive disorders in childhood such as oppositional defiance and conduct disorder;
- the additional presence of a specific developmental disorder such as a learning disability or autism that can impact an individual throughout the lifespan; and
- the presence of internalizing conditions or emotional distress such as depression or anxiety throughout the lifespan.

The articles in this research brief highlight the large volume of research on comorbidity in AD/HD, and demonstrate both diagnostic and treatment challenges across the lifespan.

► Antschel, K.M., & Remer, R. (2003). Social skills training in children with attention-deficit hyperactivity disorder: A randomized-controlled clinical trial. *Journal of Clinical Child and Adolescent Psychology*, 32 (1), 153-165.

These authors evaluated the efficacy of social skills training on improving social behavior in children with the inattentive and combined types of AD/HD. Children were randomly assigned within diagnosis subtype to eight weeks of social skills training or the no-inter-

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vention control condition. Social skills training led to greater improvements in both parent and child perceived assertion skills in the children with AD/HD, yet did not affect the other domains of social competence. Diagnostically heterogeneous groups led to greater improvement on parental report of their child's cooperation and assertion abilities as well as children's report of their own empathy skills. Diagnostically, homogeneous groups led to greater decreases in externalizing behaviors of post-treatment but not at follow-up. Children with comorbid oppositional defiant disorder did not benefit as much from the intervention.

► Biederman, J., Ball, S.W., Monuteaux, M.C., Surman, C.B., Johnson, J.L., & Zeitlin, S. (2007). Are girls with ADHD at risk for eating disorders? Results from a controlled, five-year prospective study. *Journal of Developmental and Behavioral Pediatrics*, 28(4), 302-307.

These authors sought to evaluate the association between AD/HD and eating disorders in a large adolescent population of females with and without AD/HD. Females with AD/HD were found to be 3.6 times more likely to meet criteria for an eating disorder throughout the follow-up period compared to other females. Females with eating disorders had significantly higher rates of major depression, anxiety, and disruptive behavior compared to girls with AD/HD without an eating disorder. Females with AD/HD and eating disorders had significantly earlier mean age at menarche than other females with AD/HD. No other differences and correlates of AD/HD were detected between girls with AD/HD with and without eating disorders. The authors concluded that AD/HD significantly increases the risk of eating disorders in females, noting that the presence of an eating disorder in females with AD/HD heightens the risk of additional morbidity and dysfunction.

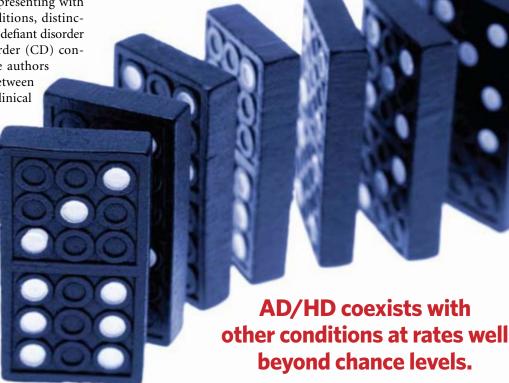
Connor, D.F., & Doerfler, L.A. (2008). ADHD with comorbid oppositional defiant disorder or conduct disorder: Discrete or nondistinct disruptive behavior disorders. Journal of Attention Disorders, 12(2), 126-134.

In children with AD/HD presenting with comorbid disruptive conditions, distinctions between oppositional defiant disorder (ODD) and conduct disorder (CD) continue to be unclear. These authors investigated differences between ODD and CD in a large clinical

sample of children with AD/HD. In children with AD/HD, significant differences emerged between ODD and CD and the domains of delinquency, overt aggression, and AD/HD symptom severity. AD/HD with CD was most severe followed by ADHD with ODD. AD/HD alone had the least symptoms. Distinctions between AD/HD with CD and the other two groups were

found for parenting, treatment history, and school variables. These results support clinically meaningful distinctions between ODD and CD, particularly in children

with AD/HD.



What Have We Learned?

- > Throughout the lifespan, individuals with AD/HD demonstrate a much higher than chance rate of experiencing comorbid problems related to depression, anxiety, personality disorders, and learning disabilities.
- > The most common conditions comorbid with AD/HD in childhood are oppositional defiant disorder and conduct disorder.
- In adulthood the most common comorbid conditions with AD/HD are depression and anxiety.
- > AD/HD appears to act as a catalyst, increasing the risk that individuals with this condition will develop other conditions and worsening the symptom presentation of other conditions when they present as comorbid with AD/HD. This includes common psychiatric conditions as well as those conditions less often associated with AD/HD, such as eating disorders.
- **Effective** psychosocial treatments for AD/HD such as social skills training are rendered less beneficial based upon the presence of other comorbid conditions

- in childhood, such as oppositional defiant disorder.
- > Environmental factors such as parenting style, family environment, and peer relations can influence the presence of comorbid problems in youth with AD/HD.
- > AD/HD is a risk factor for developing histrionic, antisocial, and borderline adult personality disorders.
- Levels of impairment for people with AD/HD may be best predicted by the presence of comorbid conditions.

Drabick, D.A., Gadow, K.D., & Sprafkin, J. (2006). Co-occurrence of conduct disorder and depression in a clinic-based sample of boys with ADHD. Journal of Child Psychology and Psychiatry, 47(8), 766-774.

Factors that increase risk of depression and conduct problems in boys with AD/HD were examined using a clinical sample with parent- and teacher-defined groups of boys with AD/HD six to ten years of age. In addition, five-year follow-up data on a subset of children was collected so that factors could be examined prospectively. Four domains were used to predict comorbidity: parenting, family environment, academic/cognitive functioning, and peer relations. Based on ratings using DSM-IV criteria in mother- and teacher-defined groups, social problems predicted depression symptoms, while poor family function predicted both depression and conduct disorder symptoms. Hostile and inconsistent parenting was related to conduct disorder symptoms. For the group defined by teacher ratings, parenting variables also predicted depressive symptoms. When other factors were taken into account, academic or cognitive problems did not independently predict symptoms. Prospectively, depression symptoms at time one predict conduct disorders symptoms at time two. However, the reverse was not true. For the teacher-defined group, parental hostility and family conflict predicted conduct disorder symptoms over time. The authors suggest their findings point to specific parent, family, and child targets for intervention and prevention efforts focusing on comorbidity in AD/HD.

► Fischer, M., Barkley, R., Smallish, L., & Fletcher, K. (2002). Young adult follow-up of hyperactive children: Self-reported psychiatric disorders, comorbidity, and the role of childhood conduct problems and teen conduct disorder. Journal of Abnormal Child Psychology, 30(5), 463-475.

In a longitudinal population, these authors followed and evaluated the onset of personality disorders in a population of youth with childhood-diagnosed AD/HD. The hyperactive group had a significantly higher risk for any nondrug psychiatric disorder than controls. More of the hyperactive group met criteria for AD/HD, major depression, and histrionic, antisocial, passive-aggressive, and borderline personality disorders at follow-up than the control group. Interestingly, severity of childhood conduct problems contributed to the risk of a number of these personality disorders. The presence of borderline or antisocial personalities significantly increased the risk for major depression as well.

► Gathje, A., Lewandowski, L.J., & Gordon, M. (2008). The role of impairment in the diagnosis of ADHD. Journal of Attention Disorders, 11(5), 529-537.

Current diagnostic criteria for AD/HD require the consideration of impairment in making the diagnosis. However, traditionally, clinical and research definitions of AD/HD have relied heavily on symptoms rather than impairment. This study explored the relationship between impairment and symptoms, finding that single impairment measured alone was at best only moderately

correlated with symptom reports. Further, predictor variables accounted for only a small percentage of the variance in impairment. Finally, the number of children meeting criteria for AD/HD diagnosis varied dramatically when impairment measures were considered. When impairment was considered in the diagnostic decision, as per DSM-TR criteria, the percentage of children meeting diagnostic criteria dropped significantly. The authors question what other variables contribute to children's outcomes if not symptom severity. They note that in some cases comorbidity of other psychiatric conditions may play a significant role in determining the level of impairment.

► Ghanizadeh, A., Mohammadi, M.R., & Moini, R. (2008). Comorbidity of psychiatric disorders in parental psychiatric disorders in a sample of Iranian children with ADHD. Journal of Attention Disorders, 12(2), 149-155.

These authors sought to study the psychiatric comorbidity of a clinical sample of children with AD/HD as well as the psychiatric disorders of their parents. This is one of the first published studies addressing AD/HD in Iranian children. The most common comorbid disorders found in the children were disruptive behavior disorders and anxiety. Prevalence of lifetime AD/HD in parents of these children was nearly 50 percent for fathers and nearly 20 percent for mothers. The rate of major depression in both mothers and fathers was over 40 percent. These authors found that a clinical sample of children with AD/HD typically presented with at least one other

psychiatric condition, usually oppositional defiant disorder in boys and anxiety disorders in girls. However, it should also be noted that 14 percent of the children were reported to have a tic disorder, 7 percent with enuresis, and 7 percent with major depression.

McNamara, J., Vervaeke, S.L., & Willoughby, T. (2008). Learning disabilities and risk-taking behavior in adolescents: A comparison of those with and without comorbid Attention-Deficit/Hyperactivity Disorder. Journal of Learning Disabilities, 41(6), 561-574.

Risk-taking behavior includes alcohol and drug use, delinquency, acts of aggression, sexual activity, and so on. Many studies have explored the relationship between adolescents and risk-taking behavior; however, only a few studies have examined this link in adolescents with learning disabilities or AD/HD. The purpose of this study was to address that limitation by comparing the risktaking behavior of adolescents with LD (n=230), with comorbid LD-AD/HD (n=92), and without LD or AD/HD (n=322) on their substance use, engagement in major and minor delinquency, acts of aggression, sexual activity, and gambling activities. The study also investigated whether psychosocial variables (e.g., well-being) may act as mediating variables that help explain between-group differences. Results suggest that it is a combination of the LD and the secondary psychosocial characteristics that explains why adolescents with LD and comorbid LD-AD/HD more frequently engage in some risk-taking behavior.