

Long term effects of ADHD medications

Stimulant medications have been a mainstay of ADHD treatment for years, with a strong backing from research literature. Although many children are prescribed these medications over several years, few research studies have examined the long term effects of medication treatment for ADHD and compared this to other treatment options. The NIMH collaborative Multisite Multimodal Treatment Study of Children with ADHD (MTA) was the first large scale study to address this lack in the research. The MTA Cooperative Group (2004) reported a clear advantage for closely monitored medication treatment over both behavioral treatments and over general community care in the first 24 months of the study, and advocated consistent use of medications as the best treatment for ADHD. In the past 2 years, long term results of this study have become available with some surprising results.

Jensen and colleagues (2007) conducted an examination of results 36 months after the MTA began. They found that 3 years later, no difference remained between treatment groups: all groups had shown significant and equal gains in attention and impulse control since the start of the study. This was not due to changes in treatment such as individuals in different groups stopping or starting medication use. In fact, the researchers found that use of medication at 3-year follow-up was actually correlated with worse, not improved, symptoms. This appeared to be because only children who were experiencing particularly severe symptoms continued to take meds or were newly started on meds. Authors concluded that results tended to indicate that medications have no clear long term advantage, but that more research was needed.

Swanson and colleagues (2007b) attempted to further analyze results, and divided the MTA children into 1 of 3 outcome groups: those that showed gradual but sustained improvement over 3 years, those that showed an initial rapid improvement followed by maintenance of gains, and those who improved rapidly, but then had a relapse of symptoms. They found that children in the 2nd group (consider the best outcome) were more likely to have been given closely monitored medication treatment in the initial 14 months of the study, indicating that medication usage is the fastest path for initial treatment, but that over time most children treated by any strategy do

improve. Molina and colleagues (in press) showed that this trend continued at 6 and 8 years following the study, with no one treatment group showing any advantage over another, and most children maintaining the gains they had made by the 3rd year after starting treatment. In fact, only one finding was consistently different between groups at 3 year follow-up: Children in the medication group had less physical growth than those in other treatment groups (Swanson, 2007a)

Overall, results of the MTA indicate that stimulant medications help a great deal in the short term, but that they do not provide any additional advantage over other forms of treatment after the first 2-3 years. The important factor from this study is that children do benefit from treatment for ADHD, and that in the long run, both behavioral and medication treatments are equally effective.

Jensen, P., Arnold, E., Swanson, J., Vitiello, B., Abikoff, H., Greenhill, L. et al (2007). 3-year follow-up of the NIMH MTA study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 988-1001.

Molina, B., Hinshaw, S., Swanson, J., Arnold, E., Vitiello, B., Jensen, P. et al (in press). MTA at 8 years: Prospective follow-up of children treated for combined-type ADHD in a multisite study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 48, 484-500.

MTA Cooperative Group (2004). National Institute of Mental Health Multimodal Treatment Study of ADHD followup: 24 month outcomes of treatment strategies for attention-deficit/hyperactivity disorder. *Pediatrics*, 113, 754-761.

Swanson, J., Elliott, G., Greenhill, L., Wigal, T., Arnold, E., Vitiello, B. et al (2007a). Effects of stimulant medication on growth rates across 3 years in the MTA follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1014-1026.

Swanson, J., Hinshaw, S., Arnold, E., Gibbons, R., Marcus, S., Hur, K. (2007b). Secondary evaluations of MTA 36-month Outcomes: Propensity score and growth mixture model analyses. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 1002-1013.

emotional difficulties such as anxiety and depression had even more sleep difficulties than the hyperactive ADHD children. Overall, the more severe a child's symptoms of ADHD, the more difficulty they had with sleep. Overall, results indicate that sleep hygiene and assessment should be a routine part of ADHD treatment for children with either hyperactive symptoms or additional emotional concerns.

Mayes, S., Calhoun, S., Bixler, E., Vgontzas, A., Mahr, F., Hillwig-Garcia, J. et al (2009). ADHD subtypes and comorbid anxiety, depression and oppositional-defiant disorder: Differences in sleep problems. *Journal of Pediatric Psychology*, 34, 328-337.

Advancing Minds is pleased to announce that Dr. Susan Anvin has been accepted as a preferred provider on two behavioral health insurance panels: **Cigna** and **ComPsych**. Therapy and in-depth assessments may now be covered by your insurance. Contact Dr. Anvin at **(408) 294 - 9905** for more information.

ADHD and sleep difficulties

Sleep and attention are highly related. In fact, some ADHD like symptoms can be caused by sleep disorders such as sleep apnea. Parents of children with ADHD often report that their children have sleep difficulties, and worry this may increase their difficulties. Mayes and colleagues (2009) conducted a study to examine sleep problems in children with ADHD. They found that not all children with ADHD have more sleep problems than children without ADHD. Children with only inattentive symptoms had no more sleep problems than controls, whereas children with hyperactive and inattentive symptoms had more difficulty falling asleep, were more restless during sleep, woke more often during the night, had more nightmares or episodes of sleep walking or talking, woke earlier and had less sleep overall. Authors point out that there is no evidence that the poor sleep caused hyperactivity. Authors also noted that children with both ADHD and

Treating Childhood Obesity

Obesity is a growing concern, with nearly one out of every five children overweight or obese (Gilles et al, 2008). Many health care professionals struggle with how to help families and children in overcoming this issue. Two recent studies in the field of child psychology shed some light on this important issue.

Gilles and colleagues (2008) found 2 factors that contributed to successful weight management in children and teens. Programs that included the whole family, particularly parents, were more likely to succeed. Also, treatments that actively helped families plan to increase physical activity and decrease sedentary activities were the most effective. More frequent treatment also lead to greater success.

Wilson (2009) found that 3 treatment factors consistently proved to be key for successful weight management. Family and community involvement were both factors of successful treatments. Also, psychological interventions aimed at increasing both self-esteem and motivation to change in overweight youths significantly contributed to weight management success.

Overall, the body of research suggests that for successful weight management, families need frequent support from professionals trained in crafting individualized behavior plans, as well as psychological interventions to better help youths deal with the emotional side of weight management. Such treatment will likely involve a team of medical and behavioral professionals working together to help families meet this challenge.

Gilles, A., Cassano, M., Shepherd, E., Higgins, D., Hecker, J. & Nangles, D. (2008). Comparing active pediatric obesity treatments using meta analysis. *Journal of Clinical Child & Adolescent Psychology, 37*, 886-892.

Wilson, D. (2009) New Perspective on health disparities and obesity interventions in youth. *Journal of Pediatric Psychology, 34*, 231-244

TV and Child Weight Gain

Part of treating childhood obesity is understanding the factors in society that have lead to such a dramatic increase in weight in people of all ages. Danner (2008) conducted a 6 year study of 7,334 children to explore connections between changes in behavior and weight. He found that hours of television viewing were not simply associated with weight gain, but with a pattern of weight gain that became more rapid over time. Danner suggests that interventions to treat childhood obesity may consider reduction in TV watching as one of the targets for behavior change.

Danner, F. (2008). A national longitudinal study of the association between hours of TV viewing and the trajectory of BMI growth among US children. *Journal of Pediatric Psychology, 33*, 1100 - 1107.



Advancing Minds Research Review Quarterly is a free publication to promote awareness of psychological research in professionals who work with children. All articles are written by Susan Anvin, Ph.D. For additional copies or information, please call **(408) 294-9903**.

Advancing Minds is a child and adolescent mental health clinic in San Jose, CA. Our team of psychologists provides in depth evaluations of children's academic and emotional functioning. Evaluations help clarify diagnoses, qualify children for services, and provide parents and professionals with a detailed plan to help a child achieve their potential. Our psychologists also provide a full range of therapy and consultation services, helping families manage difficulties such as depression, anxiety, disruptive behaviors, inattention, relationships and troubling life events.

Copyright 2009, Advancing Minds. All Rights Reserved.

100 Years of Spanking Research

Spanking remains a common parenting practice, defended by parents' childhood experience as well as cultural institutions like churches and community groups. Dr. Gershoff (2008a) conducted a massive literature review of 100 years of research on corporal punishment and has confirmed what parenting experts have been stressing for several decades: Little to no research shows any positive effects of spanking children, whereas a large body of research over many decades shows many harmful effects of hitting a child for disciplinary reasons. Gershoff's review clearly shows that children who are spanked over time show increases in aggression and defiance of adults. This escalating child misbehavior tends to lead to more and more frequent and severe corporal punishment, and research has shown that parents who rely on spanking tend to cross the line into physically damaging abuse with far greater frequency than parents who had not previously spanked.

Children who have been spanked were frequently shown to be at greater risk for a wide range of negative outcomes, such as anxiety, depression, drug and alcohol use. Children who were spanked are also more likely to become future victims of dating violence, and are more likely to be themselves violent to others. These risks have been shown to extend into adulthood. Gershoff urges parents to adopt nonviolent practices, and has published a summary for parents on techniques proven to shape children's behavior without violence (2008b).

In a related article, Gershoff and Bitensky (2007) show that global acceptance of physical punishment of children is declining. The UN has made statements that corporal punishment is a human rights violation, and several international treaties are seeking a ban on the practice. These documents argue that if carried out on adults, corporal punishment would be considered torture. As of 2007, 23 nations have laws against corporal punishment.

Gershoff, E. T. (2008a). Report on Physical Punishment in the United States: What Research Tells Us About Its Effects on Children. Columbus, OH: Center for Effective Discipline. Accessed online at <http://www.phoenixchildrens.com/about/community-outreach-education/effective-discipline.html>

Gershoff, E. T. (2008b). Principles and Practices of Effective Discipline: Advice for Parents. Columbus, OH: Center for Effective Discipline. Accessed online at <http://www.phoenixchildrens.com/about/community-outreach-education/effective-discipline.html>

Gershoff, E. & Bitensky, S. (2007) Converging Evidence from social science research and international human rights law and implications for US policy. *Psychology, Public Policy, and Law, 13*, 231-272.

Dads and Child Anxiety Treatment

Most research on parents' influence on children's emotions has focused on mothers, as in many families they are primary caretakers. However, fathers also play an important role in modeling emotional coping and helping children deal with feelings. Liber and colleagues (2008) conducted a study to look at the role of each parent in children in treatment for anxiety. They found that while mother's warmth was related to child improvement (more warmth was linked with poorer outcomes, likely because these moms move in too quickly to help an anxious child), fathers also played an important role. Children of fathers who were themselves anxious or depressed showed less improvement in therapy, as did children who reported feeling rejected by their fathers. Authors conclude that fathers are important as both role models for managing emotions and as supports for children in therapy, and should be part of treatment when possible.

Liber, J., van Widenfelt, B., Goedhart, A., Utens, E., van der Leeden, A., Markus, M. et al (2008). Parenting and parental anxiety and depression as predictors of treatment outcome for childhood anxiety disorders: Has the role of fathers been underestimated? *Journal of Clinical Child & Adolescent Psychology, 37*, 747-758.