



ADHD

ATTENTION DEFICIT HYPERACTIVITY DISORDER


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J Am Acad Child Adolesc Psychiatry. 2009;48:166-75.

Effects of MPH-OROS on the organizational, time management, and planning behaviors of children with ADHD.

Abikoff H, Nissley-Tsiopinis J, Gallagher R, et al.

Objective: To evaluate the effects of stimulant medication on organizational, time management, and planning (OTMP) in children with attention-deficit/hyperactivity disorder (ADHD) and ascertain whether OTMP is normalized with medication.

Method: Participants included 19 stimulant-naive children with ADHD (aged 8-13 years) and impaired OTMP functioning, defined as greater than 1 SD below norms on the Children's Organizational Skills Scale. A double-blind, placebo-controlled, crossover design, with 4 weeks of each condition, evaluated medication (methylphenidate-osmotic-release oral system [MPH-OROS]) effects on OTMP, based on the parent and teacher versions of the Children's Organizational Skills Scale. The parent and teacher Swanson, Nolan, and Pelham, Version IV, rating scales assessed ADHD symptoms. "Not impaired" in OTMP was defined as no longer meeting study entry criteria, and "not impaired" in ADHD symptoms was defined as having mean Swanson, Nolan, and Pelham, Version IV, scores of (less-than or equal to)1.0.

Results: MPH-OROS significantly improved children's OTMP behaviors. These improvements were correlated with significant reductions in ADHD symptoms. However, most of the children (61 %) continued to show significant OTMP impairments on MPH-OROS.

Conclusions: The MPH-OROS reduced children's OTMP deficits, and these improvements were associated with improvements in ADHD symptoms. Some children remained impaired in OTMP even after effective stimulant treatment of ADHD symptoms. These youngsters may require other treatments that target OTMP deficits.

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Clin Neurophysiol. 2009 Jan;120:30-40.

Arousal-state modulation in children with AD/HD.

Benikos N, Johnstone SJ.

Objective: To investigate the effect of arousal-state modulation, via manipulation of stimulus event-rate, on response inhibition in children with Attention-Deficit/Hyperactivity disorder (AD/HD) using behavioural and ERP measures.

Methods: Eighteen children with AD/HD, aged 7-14 years, and 18 age- and sex-matched controls performed a cued visual Go/Nogo task (70% Go) with stimuli presented at fast, medium and slow event-rates. Task performance and ERPs to Warning, Go and Nogo stimuli, as well as preparation between the S1-S2 interval, were examined for group differences.

Results: AD/HD subjects displayed poorer response inhibition during the fast condition, accompanied by a reduced Nogo P3. Group differences during the fast rate extended to Warning cues, with the AD/HD group showing ERP evidence of atypical orienting/preparation, as indexed by the early and late CNV, and early sensory/attentive processing prior to S2.

Per la ricerca degli articoli pubblicati nella letteratura scientifica nel mese in esame sono state consultate le banche dati Medline, Embase e PsycINFO utilizzando le seguenti parole chiave (o i loro sinonimi): 'Attention deficit disorder', 'Attention deficit hyperactivity disorder', 'Infant', 'Child', 'Adolescent', 'Human'. Sono qui riportate le referenze considerate rilevanti e pertinenti.

Conclusions: Although deficient response inhibition has been proposed as the core deficit in AD/HD, the results of the present study highlight the key role of energetic factors. Furthermore, group differences found to cues suggest that this effect extends to the processing of task-irrelevant stimuli.

Significance: This was the first ERP Go/Nogo task investigation using three event-rates, and the results support the theory that state factors may contribute to response inhibition deficits in AD/HD.

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Am J Psychiatry. 2009;166:18-24.

Treating the childhood bipolar controversy: A tale of two children.

Carlson GA.

Journal of Attention Disorders. 2008 Nov;12:270-80.

A pilot study of the feasibility and efficacy of the Strategies to Enhance Positive Parenting (STEPP) program for single mothers of children with ADHD.

Chacko A, Wymbs BT, Flammer-Rivera LM, et al.

Objective: The Strategies to Enhance Positive Parenting (STEPP) program was developed to address putative factors related to poor engagement in and outcomes following traditional behavioral parent training (BPT) for single mothers of children diagnosed with ADHD.

Method: Twelve single mothers of children with ADHD were enrolled in an initial investigation of the feasibility and preliminary efficacy of the 9-week STEPP program.

Results: Results indicated that the STEPP program was effective in reducing problematic child behavior and improving parental stress and psychopathology at posttreatment. The STEPP program resulted in high rates of treatment attendance and completion and consumer satisfaction with the program. However, results also indicated that the STEPP program did not improve childrens' overall psychosocial impairment and resulted in small effect size findings across measures.

Conclusion: The results of the pilot study are encouraging but indicate a need to improve the potency and delivery of certain aspects of the STEPP program.

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J Clin Psychiatry. 2008;69:1938-47.

Efficacy of osmotic-release oral system (OROS) methylphenidate for mothers with attention-deficit/hyperactivity disorder (ADHD): Preliminary report of effects on ADHD symptoms and parenting.

Chronis-Tuscano A, Seymour KE, Stein MA, et al.

Objective: A preliminary study to examine the efficacy of osmotic-release oral system (OROS) methylphenidate for attention-deficit/hyperactivity disorder (ADHD) symptoms and parenting behaviors in mothers with ADHD who had children with ADHD.

Method: Participants included 23 mother-child dyads in which both were diagnosed with DSM-IV ADHD. Mothers underwent a 5-week, double-blind titration (placebo, 36 mg/day, 54 mg/day, 72 mg/day, 90 mg/day) to an optimal dose of OROS methylphenidate, followed by random assignment to 2 weeks of placebo or their maximally effective dose. Primary outcome measures included maternal ADHD symptoms (Conners' Adult ADHD Rating Scale) and parenting (Alabama Parenting Questionnaire). Secondary outcomes included side effects ratings. Data were collected from December 2004 until August 2006.

Results: During Phase 1, mothers reported significant decreases in inattention ($p < .001$) and hyperactivity/impulsivity ($p < .01$) with increases in OROS methylphenidate dose. As dose increased, significant reductions in inconsistent discipline ($p < .01$) and corporal punishment use ($p < .005$) were also demonstrated. During Phase 2, small effects on inattention ($d = 0.46$) and hyperactivity/impulsivity ($d = 0.38$) were found for those randomly assigned to medication versus placebo. In addition, medium to large medication effects were found on maternal involvement ($d = 0.52$), poor monitoring/supervision ($d = 0.70$), and inconsistent discipline ($d = 0.71$), with small effects on corporal punishment ($d = 0.42$). During both phases, few adverse effects were noted.

Conclusions: OROS methylphenidate was well tolerated and was associated with significant improvement in maternal ADHD symptoms and parenting. Variable effects on parenting suggest that behavioral interventions may be necessary to address impairments in parenting among adults with ADHD. Trial Registration: clinicaltrials.gov Identifier: NCT00318981.

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Child Psychiatry & Human Development. 2009 Mar;40:111-21.

Emotion understanding in children with ADHD.

Da Fonseca D, Seguíer Vr, Santos A, et al.

Several studies suggest that children with ADHD tend to perform worse than typically developing children on emotion recognition tasks. However, most of these studies have focused on the recognition of facial expression, while there is evidence that context plays a major role on emotion perception. This study aims at further investigating emotion processing in children with ADHD, by assessing not only facial emotion recognition (Experiment 1) but also emotion recognition on the basis of contextual cues (Experiment 2). Twenty-seven children and adolescents with ADHD were compared to age-matched typically developing controls. Importantly, findings of this study show that emotion-processing difficulties in children with ADHD extend beyond facial emotion and also affect the recognition of emotions on the basis of contextual information. Our data thus indicate that children with ADHD have an overall emotion-processing deficit. (PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Jornal de Pediatria. 2009;85:35-41.

Cognitive and behavioral status of low birth weight preterm children raised in a developing country at preschool age.

Do Espírito Santo JL, Portuêguez MW, Nunes ML.

Objective: To assess cognitive and behavioral development at preschool age of children born preterm and with low birth weight and raised in a developing country.

Methods: Prospective cross-sectional study of 80 neonates born in a university hospital in southern Brazil. Neuropsychological assessment at age 4-5 years included the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), Conners' Parent Rating Scale-Revised, Denver test and neurological examination. Perinatal and early neuropsychomotor development information was collected from the database during follow-up. Results were related to birth weight, sex and gestational age.

Results: WPPSI scores were: total IQ 88.00 (plus or minus) 16.96, verbal IQ 89.72 (plus or minus) 16.72, and executive IQ 88.12 (plus or minus) 15.71 for the group with less than 1,500 grams; and total IQ 91.11 (plus or minus) 14.73, verbal IQ 93.36 (plus or minus) 12.65, and executive IQ 90.20 (plus or minus) 16.06 for the group between 1,500 and 2,500 grams. The best scores were obtained in tests that evaluated capacity of abstraction and symbolization, picture completion and common perception, in which only 5% and 6.3% of the children had abnormal results, respectively. The lowest scores were obtained in tests that evaluated visual-motor coordination and flexibility-speed of reasoning, in which 27.5% and 16.3% of the children had abnormal results, respectively. A total of 32.5% had abnormal results in the arithmetic tests. Behaviors related to attention deficit/hyperactivity disorder (ADHD) were observed in 48% of the sample. Low score in the Bayley Mental Scale and abnormal result in the Denver test were significantly correlated to ADHD ($p = 0.017$ and $p = 0.004$). Abnormal results in the Bayley Mental Scale ($p < 0.001$), Denver test ($p < 0.001$) and neurological examination ($p = 0.002$) were associated with lower IQ.

Conclusions: The results revealed an increased incidence of behavioral and cognitive disorders at preschool age.

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J Am Acad Child Adolesc Psychiatry. 2009;48:176-85.

Safety and tolerability of atomoxetine over 3 to 4 years in children and adolescents with ADHD.

Donnelly C, Bangs M, Trzepacz P, et al.

Objective: To assess the long-term safety and tolerability of atomoxetine hydrochloride in children and adolescents with attention-deficit/hyperactivity disorder treated for >3 years.

Method: Data from 13 double-blind, placebo-controlled trials and 3 open-label extension studies were pooled. Outcome measures were patient-reported treatment-emergent adverse events (AEs); discontinuations due to AEs, serious AEs, and changes in body weight, height, vital signs, electrocardiogram, and hepatic function tests.

Results: In total, 714 patients were treated with atomoxetine for (greater-than or equal to) 3 years (mean follow-up 4.8 years [SD 1.1 years]), including a subset of 508 treated for (greater-than or equal to) 4 years (mean follow-up 5.3 years [SD 0.8 years]). Most subjects were younger than 12 years at entry (73.8%), male (78.4%), and white (88.9%). The mean final daily dose of atomoxetine was 1.35 mg/kg (SD 0.37 mg/kg). No new or unexpected AEs were observed compared with acute-phase treatment. Less than 6% of patients exhibited aggressive/hostile behaviors, and less than 1.6% reported suicidal ideation/behavior. No clinically significant effects were seen on growth rate, vital signs, or electrocardiographic parameters, and (less-than or equal to) 2% of patients showed potentially clinically significant hepatic changes.

Conclusion: Atomoxetine was safe and well tolerated for children and adolescents with (greater-than or equal to)3 and/or (greater-than or equal to)4 years of treatment.
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Journal of Child and Adolescent Psychiatric Nursing. 2008 Nov;21:228-37.

ADHD symptoms related to profiles of self-esteem in a longitudinal study of twins: A person-oriented approach.

Edbom T, Granlund M, Lichtenstein P, et al.

Problem: There are conflicting research data regarding the relationship between attention deficit hyperactivity disorder (ADHD) and low self-esteem.

Methods: A person-oriented approach was used to study the relationships between ADHD symptoms and self-esteem in a longitudinal study of twins starting when they were 8 years old. A cluster analysis was performed at age 13 using five subscales from a self-esteem questionnaire.

Findings: High scores of ADHD symptoms were linked to profiles characterized by lower scores in the domains "skills and talents" and "psychological well-being".

Conclusion: Children with high scores of ADHD symptoms often have specific problem profiles of self-esteem.

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J Am Acad Child Adolesc Psychiatry. 2009;48:146-54.

Parenting practices and attention-deficit/hyperactivity disorder: New findings suggest partial specificity of effects.

Ellis B, Nigg J.

Objective: Examine the relations of attention-deficit/hyperactivity disorder (ADHD) diagnosis and symptom domains with parenting practices.

Method: One hundred eighty-one children (ages 6-12 years) were assessed for ADHD and non-ADHD status via parent semistructured clinical interview (Diagnostic Interview Schedule for Children-IV) and parent and teacher standardized ratings. They included controls (n=52), ADHD Inattentive type (n=24), and ADHD Combined type (n=71) as well as "not otherwise specified" cases (included in regressions only). Parents completed the Alabama Parenting Questionnaire and a structured interview (the Diagnostic Interview Schedule-IV) about their own ADHD symptoms. Symptom counts were created for oppositional defiant disorder (ODD), conduct disorder (CD), inattention, and hyperactivity-impulsivity to complement categorical analyses.

Results: In categorical analysis, maternal inconsistent discipline was associated with ADHD Combined type, even with child ODD and CD diagnosis and parent ADHD symptoms statistically controlled. Paternal low involvement was associated with ADHD regardless of subtype, even with ODD and CD covaried; however, the effect was marginal when paternal ADHD was covaried. In dimensional analysis of symptom counts, maternal inconsistent discipline was related to all behavior domains but none uniquely. Paternal low involvement and inconsistent discipline were related uniquely with child inattention and not other behavioral domains.

Conclusions: Specific aspects of parenting are related to ADHD apart from ODD or CD and are not fully attributable to parental ADHD.

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Journal of Attention Disorders. 2009 Mar;12:474-85.

Comparative study of children with ADHD only, autism spectrum disorder + ADHD, and chronic multiple tic disorder + ADHD.

Gadow KD, DeVincent CJ, Schneider J.

Objective: Identification of differences among children with ADHD only, autism spectrum disorder (ASD)+ADHD, and chronic multiple tic disorder (CMTD)+ADHD may lead to better understanding of clinical phenotypes.

Method: Children were evaluated using the parent- and teacher-completed questionnaires.

Results: All three groups were highly similar in severity of oppositional defiant disorder and conduct disorder symptoms; however, the ASD+ADHD group generally exhibited the most severe anxiety, although the CMTD+ADHD group had the most severe generalized anxiety. The two comorbid groups had the most involved medical histories and the greatest likelihood of a family history of psychopathology.

Conclusion: Groups differed in clinically meaningful ways, and the apparent association between tics and anxiety may explain in part the elevated levels of anxiety in both comorbid groups. Collectively, results

suggest that ADHD may be better conceptualized as a family of interrelated syndromes defined in part by comorbid conditions and that continued research is clearly warranted.
(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Journal of the American Academy of Child & Adolescent Psychiatry. 2008 Nov;47:1321-28.

Neuroanatomies abnormalities in adolescents with attention-deficit/hyperactivity disorder.

Garrett A, Penniman L, Epstein JN, et al.

Objective: Several neuroanatomic abnormalities have been reported in patients with attention-deficit/hyperactivity disorder (ADHD). However, findings are not always consistent, perhaps because of heterogeneous subject samples. Studying youths with documented familial ADHD provides an opportunity to examine a more homogeneous population.

Method: Twenty-four youths with a confirmed history of familial ADHD and 10 control youths underwent high-resolution structural magnetic resonance imaging examinations. Archived magnetic resonance imaging scan data from 12 control youths were included in the analysis to increase statistical power. Individually drawn region-of-interest methods were used to examine the frontal lobe gyri and caudate.

Results: Cerebral total tissue was similar between groups. The volumes of the right caudate and right inferior frontal lobe were larger in the ADHD youths compared with the control youths. Data from a subgroup of the ADHD youths suggest that increasing left caudate volume is associated with decreasing functional activation of this region.

Conclusions: Because previous studies have focused primarily on younger subjects or used an extended age range, the present results may reflect neurodevelopmental changes specific to late adolescence in familial ADHD.

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Clin Neurophysiol. 2009 Jan;120:73-79.

Do children with ADHD and/or PDD-NOS differ in reactivity of alpha/theta ERD/ERS to manipulations of cognitive load and stimulus relevance.

Gomarus HK, Wijers AA, Minderaa RB, et al.

Objective: We examined whether the method of event-related (de-)synchronization (ERD/ERS) revealed differential effects of selective attention and working memory load in children (8-11 years) with pervasive developmental disorder—*not* otherwise specified (PDD-NOS) or attention-deficit/hyperactivity disorder (ADHD).

Methods: Fifteen healthy controls and three equally large groups of children with symptoms of PDD-NOS, ADHD or both (PDD/HD) performed a visual selective memory search task. The EEG was recorded from which occipital alpha and frontal theta were derived.

Results: The effects of the overall task manipulations of task load, relevance and target/non target were clearly present in the overall analyses of alpha and theta ERD/ERS. However, no significant differences with respect to these manipulations existed between any of the subject groups.

Conclusions: The results supply no evidence for a distinction in information processing abilities of selective attention and working memory as reflected by alpha and theta ERD/ERS between children diagnosed with either ADHD, PDD-NOS or healthy controls.

Significance: Alpha and theta ERD/ERS are sensitive to manipulations of task load, relevance and target/non target, but supply no additional information on possible group differences in comparison to the more frequently used method of event-related potentials.

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Clin Neurophysiol. 2009 Jan;120:60-72.

ERP correlates of selective attention and working memory capacities in children with ADHD and/or PDD-NOS.

Gomarus HK, Wijers AA, Minderaa RB, et al.

Objective: We examined whether children (8-11 years) diagnosed with Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) or Attention-Deficit/Hyperactivity Disorder (ADHD) showing primarily hyperactive behavior, differed in selective attention and working memory (WM) abilities.

Methods: Healthy controls and children with ADHD, PDD-NOS or symptoms of both disorders (PDD/HD) (*n* = 15 in each group) carried out a visual selective memory search task while their EEG was recorded from which event-related potentials were derived.

Results: Compared to the control group, all patient groups made more omissions while hyperactive children also exhibited more false alarms. Regarding the process of WM-controlled search, significant group differences in ERP data were found between the control group and each of the clinical groups.

Conclusions: The results point to less efficient WM-functioning in all patient groups. Whereas the clinical groups differed from each other at the behavioral level as measured by questionnaires, no distinction between the clinical groups could be made with respect to performance or ERP measures of WM capacity and selective attention.

Significance: The results suggest that a possible differentiation in selectivity and working memory capacities between PDD-NOS and ADHD is hard to find. This may agree with clinical practice, where differential diagnosis is a subject of discussion.

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Journal of Attention Disorders. 2009 Mar;12:422-33.

Invariance of parent ratings of the ADHD symptoms in Australian and Malaysian, and North European Australian and Malay Malaysia children: A mean and covariance structures analysis approach.

Gomez R.

Objective: This study used the mean and covariance structures analysis approach to examine the equality or invariance of ratings of the 18 ADHD symptoms.

Method: 783 Australian and 928 Malaysian parents provided ratings for an ADHD rating scale. Invariance was tested across these groups (Comparison 1), and North European Australian (n=623) and Malay Malaysian (n=571, Comparison 2) groups.

Results: Results indicate support for form and item factor loading invariance; more than half the total number of symptoms showed item intercept invariance, and 14 symptoms showed invariance for error variances. There was invariance for both the factor variances and the covariance, and the latent mean scores for hyperactivity/impulsivity. For inattention latent scores, the Malaysian (Comparison 1) and Malay Malaysian (Comparison 2) groups had higher scores.

Conclusion: These results indicate fairly good support for invariance for parent ratings of the ADHD symptoms across the groups compared.

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Prostaglandins Leukotrienes Essent Fatty Acids. 2009;80:151-56.

Total red blood cell concentrations of (omega)-3 fatty acids are associated with emotion-elicited neural activity in adolescent boys with attention-deficit hyperactivity disorder.

Gow RV, Matsudaira T, Taylor E, et al.

Affective impairment is observed in children and adolescents with attention-deficit hyperactivity disorder (ADHD). Low levels of long-chain polyunsaturated fatty acids (LC-PUFA), specifically omega-3 ((omega)-3) fatty acids in blood measures have been linked to a range of behavioural and mood disorders including ADHD. However, nothing is known about the relationship between (omega)-3 and brain function in children with ADHD. In the current study, 20 adolescent boys with ADHD were assessed for total lipid fractions in red blood cells and their event-related potential (ERP) response to the presentation of facial expressions of happiness, sadness and fearfulness. The results supported the hypothesis of a positive association between eicosapentaenoic acid (EPA) and a cognitive bias in orientation to overt expressions of happiness over both sad and fearful faces as indexed by midline frontal P300 amplitude. Additional exploratory analyses revealed a positive association between levels of docosahexaenoic acid (DHA) and the right temporal N170 amplitude in response to covert expressions of fear. The arachidonic (AA)/DHA ratio was negatively associated with the right temporal N170 amplitude also to covert expressions of fear. These findings indicate that EPA and DHA may be involved in distinct aspects of affect processing in ADHD and have implications for understanding currently inconsistent findings in the literature on EFA supplementation in ADHD and depression.

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Sleep: Journal of Sleep and Sleep Disorders Research. 2009 Mar;32:343-50.

Sleep disturbances in prepubertal children with attention deficit hyperactivity disorder: A home polysomnography study.

Gruber R, Xi T, Frenette S, et al.

Study Objective: To examine sleep architecture and reported sleep problems in children with ADHD and normal controls, while considering the roles of pertinent moderating factors.

Design: Overnight sleep recordings were conducted in 15 children diagnosed with ADHD (DSM-IV) without comorbid psychiatric problems and in 23 healthy controls aged 7 to 11 years. Children were on no medication, in good health and did not consume products containing caffeine > or = 7 days prior to the polysomnography (PSG) study. PSG evaluation was performed at each child's home; children slept in their regular beds and went to bed at their habitual bedtimes.

Measurements: Standard overnight multichannel PSG evaluation was performed using a portable polysomnography device. In addition, parents were asked to complete a sleep questionnaire.

Results: Compared to controls, children in the ADHD group had significantly shorter duration of REM sleep, smaller percentage of total sleep time spent in REM sleep, and shorter sleep duration. In addition, the ADHD group had higher scores on the insufficient sleep and sleep anxiety factors than children in the control group.

Conclusion: The present findings support the hypothesis that children with ADHD present sleep disturbances.

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J Voice. 2009;23:190-94.

Vocal Characteristics in Children With Attention Deficit Hyperactivity Disorder.

Hamdan AL, Deeb R, Sibai A, et al.

The aim of this study was to evaluate vocal changes in patients with attention deficit hyperactivity disorder (ADHD). Nineteen children diagnosed to have ADHD according to the Diagnostic and Statistical Manual of Mental Disorders criteria and 19 controls were enrolled in this study. They underwent vocal perceptual evaluation and acoustic analysis. Hoarseness, breathiness, strain, and loudness were graded on a scale of 0-3. The following acoustic parameters were recorded: Fundamental frequency, Shimmer, Relative average perturbation, Noise-to-Harmony ratio, Voice Turbulence Index, and Habitual pitch. Children with ADHD were perceived to have significantly more hoarseness, breathiness, and straining in their voice. They were also louder compared to controls. There were no significant changes in the acoustic parameters except for the Fundamental frequency, which was lower in the ADHD group. The vocal behavior in children with ADHD is different than controls. Early diagnosis of such behavior in this group of children is important.

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Child Psychiatry & Human Development. 2009 Mar;40:85-97.

Adolescents with childhood ADHD and comorbid disruptive behavior disorders: Aggression, anger, and hostility.

Harty SC, Miller CJ, Newcorn JH, et al.

This study examined the self-reported expression of overt aggressive behaviors and covert emotional and cognitive processes in adolescents diagnosed with ADHD and comorbid disruptive behavior disorders (DBDs) during childhood.

Methods: Participants were a clinically referred sample of 85 individuals diagnosed with ADHD, initially recruited in the early to mid 1990s when they were 7-11 years of age. At that time, 44 (52%) met criteria for a comorbid diagnosis of ODD and an additional 22 (26%) met criteria for a comorbid diagnosis of CD. Approximately 10 years later, these youth, along with an age-matched comparison sample (n = 83), were re-evaluated to assess a wide array of outcomes including physical and verbal aggression, anger, and hostility.

Results: Individuals diagnosed with ADHD + CD in childhood reported elevated levels of physical aggression when compared to Controls and the ADHD-only group. Individuals diagnosed with ADHD + ODD had elevated levels of verbal aggression compared to Controls. Additionally, both comorbid groups experienced significantly greater amounts of anger, but not hostility, as compared to Controls. Importantly, the persistence of ADHD symptoms into adolescence accounted for most group differences in verbal aggression and anger at follow-up, but not physical aggression, which was accounted for by childhood CD.

Conclusion: Adolescents diagnosed with ADHD and comorbid disruptive behavior disorders during childhood report high levels of aggression associated with increased emotionality in the form of anger, but not hostile cognitions. These findings suggest that in addition to inattention and hyperactivity/impulsivity, emotional dysregulation may be an important component of ADHD, particularly as it presents in adolescence.

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Emotional & Behavioural Difficulties. 2009 Mar;14:49-68.

The relationship between divorce and the psychological well-being of children with ADHD: Differences in age, gender, and subtype.

Heckel L, Clarke A, Barry R, et al.

It is generally accepted that Attention-Deficit/Hyperactivity Disorder (ADHD) results from a dysfunction of the central nervous system, which has led to a commonly held belief that environmental factors play little role in the behavioural problems of children identified as having ADHD. Therefore, the two studies reported in this article investigated the relationship between parental divorce and the psychological well-being of children with ADHD. Subjects, aged 6 to 18 years, were diagnosed with either the inattentive or combined subtype of the disorder. Firstly, differences in children's behaviour between divorced and non-divorced families

were examined, and subtype, age, and gender differences were evaluated in terms of symptom severity and comorbid conditions. Secondly, parents perceptions of the impact of their childrens behaviour on marital status and family/parental functioning were examined. Parental divorce was associated with greater symptom severity, more externalizing/internalizing behaviours, and poorer social functioning, but less with academic underachievement. Further, parental divorce was related to adjustment differences in ADHD subtypes, age, and gender. However, the correlation between behaviour problems of children with ADHD and marital/ family dysfunction was weak. It may be concluded that parental divorce was associated with the psychological well-being in children with ADHD, and there is some suggestion that ADHD should be viewed as a bio-psychosocial disorder.

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Journal of Attention Disorders. 2009 Mar;12:394-401.

Omega-3/omega-6 fatty acids for attention deficit hyperactivity disorder: A randomized placebo-controlled trial in children and adolescents.

Johnson M, Å-stlund S, Fransson G, et al.

The aim of the study was to assess omega 3/6 fatty acids (eye q) in attention deficit hyperactivity disorder (ADHD).

Method: The study included a randomized, 3-month, omega 3/6 placebo-controlled, one-way crossover trial with 75 children and adolescents (8-18 years), followed by 3 months with omega 3/6 for all. Investigator-rated ADHD Rating Scale-IV and Clinical Global Impression (CGI) scale were outcome measures.

Results: A majority did not respond to omega 3/6 treatment. However, a subgroup of 26% responded with more than 25% reduction of ADHD symptoms and a drop of CGI scores to the near-normal range. After 6 months, 47% of all showed such improvement. Responders tended to have ADHD inattentive subtype and comorbid neurodevelopmental disorders.

Conclusion: A subgroup of children and adolescents with ADHD, characterized by inattention and associated neurodevelopmental disorders, treated with omega 3/6 fatty acids for 6 months responded with meaningful reduction of ADHD symptoms.

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Journal of Attention Disorders. 2009 Mar;12:442-48.

Factor structure of the Restricted Academic Situation Scale: Implications for ADHD.

Karama S, Amor LB, Grizenko N, et al.

Background: To study the factor structure of the Restricted Academic Situation Scale (RASS), a psychometric tool used to assess behavior in children with ADHD, 117 boys and 21 girls meeting Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) criteria for ADHD and aged between 6 and 12 years were recruited. Assessments were carried out before and 65 min after the administration of either a placebo or 0.25 mg/kg of methylphenidate. Placebo and methylphenidate were each administered according to a double-blind placebo-controlled crossover design.

Results: Principal component analysis, followed by a confirmatory maximum likelihood factor analysis, revealed two main factors for the RASS, task disengagement (TD) and motor activation (MA). Only TD was inversely correlated with age, indicating that TD and MA may be differentially modulated during development.

Conclusions: MA and TD are distinct traits of ADHD. It may be important to consider them separately when conducting studies on ADHD.

(PsycINFO Database Record (c) 2009 APA, all rights reserved) (from the journal abstract)

Trials. 2009;10.

A randomised controlled trial of the Neuro Emotional Technique (NET) for childhood Attention Deficit Hyperactivity Disorder (ADHD): A protocol.

Karpouzis F, Pollard H, Bonello R.

Background: An abundance of literature is dedicated to research for the treatment of Attention Deficit Hyperactivity Disorder (ADHD). Most, is in the area of pharmacological therapies with less emphasis in psychotherapy and psychosocial interventions and even less in the area of complementary and alternative medicine (CAM). The use of CAM has increased over the years, especially for developmental and behavioral disorders, such as ADHD. 60-65% of parents with children with ADHD have used CAM. Medical evidence supports a multidisciplinary approach (i.e. pharmacological and psychosocial) for the best clinical outcomes. The Neuro Emotional Technique (NET), a branch of Chiropractic, was designed to address the biopsychosocial aspects of acute and chronic conditions including non-musculoskeletal conditions. Anecdotally, it has been suggested that ADHD may be managed effectively by NET.

Design/methods: A placebo controlled, double blind randomised clinical trial was designed to assess the effectiveness of NET on a cohort of children with medically diagnosed ADHD. Children aged 5-12 years who met the inclusion criteria were randomised to one of three groups. The control group continued on their existing medical regimen and the intervention and placebo groups had the addition of the NET and sham NET protocols added to their regimen respectively. These two groups attended a clinical facility twice a week for the first month and then once a month for six months. The Conners' Parent and Teacher Rating Scales (CRS) were used at the start of the study to establish baseline data and then in one month and in seven months time, at the conclusion of the study. The primary outcome measures chosen were the Conners' ADHD Index and Conners' Global Index. The secondary outcome measures chosen were the DSM-IV: Inattentive, the DSM-IV: Hyperactive-Impulsive, and the DSM-IV: Total subscales from the Conners' Rating Scales, monitoring changes in inattention, hyperactivity and impulsivity. Calculations for the sample size were set with a significance level of 0.05 and the power of 80%, yielding a sample size of 93.

Discussion: The present study should provide information as to whether the addition of NET to an existing medical regimen can improve outcomes for children with ADHD.

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Child Adolesc Psychiatry Ment Health. 2009;3.

"...because I am something special" or "I think I will be something like a guinea pig": information and assent of legal minors in clinical trials - assessment of understanding, appreciation and reasoning.

Koelch M, Singer H, Prestel A, et al.

Background: The aim of this study is to assess and evaluate the capacities for understanding, appreciation and reasoning of legal minors with psychiatric disorders and their parents and their competence to consent or assent to participation in clinical trials. The beliefs, fears, motivation and influencing factors for decision-making of legal minors and parents were also examined.

Methods: Using the MacArthur Competence Assessment Tool for Clinical Research (MacCAT-CR), an instrument developed for adults whose capacities to consent are unclear, we provided information about clinical trials and assessed understanding, appreciation and reasoning. We adapted this tool for legal minors and examined 19 children and adolescents between the ages of 7 and 15 with attention deficit/ hyperactivity disorder (ADHD) or ADHD combined with oppositional defiant disorder (DSM-IV 314.00/314.01/312.8) enrolled in clinical trials. Parents were also examined using the MacCAT-CR.

Results: Facts such as the procedures involved in trials or their duration were well understood by legal minors, but more abstract issues like the primary purpose of the trial were not understood by children and adolescents or by many parents. Legal minors also had difficulties understanding the nature of placebo and the probability of receiving placebo. Children's and adolescents' decisions were influenced by fears about their disorder worsening and by problems in their relationship with their parents. Parents wanted the best therapy for their children in order to minimize problems in school.

Conclusion: Legal minors and parents need to be informed more precisely about specific issues like placebo and the primary purpose of trials. In general, the reasoning of children and adolescents was influenced by their experience with their disorder and decision making was based on reasonable arguments. Their fears were based on everyday experiences such as school performance or family relationships.

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Ment Health Asp Dev Disabil. 2009;12:23-28.

Treatment outcomes for individuals with developmental disabilities and challenging behavior or and psychiatric hospitalizations referred to a interdisciplinary clinic.

Lehrer DL, Ott D.

This study examined changes in diagnosis and challenging behavior for 38 individuals as a result of treatment at a university-affiliated hospital outpatient interdisciplinary clinic. Patients were referred to the specialty clinic because of challenging behavior not resolved by treatment in the community. Demographic and psychiatric information was collected. Challenging behavior was measured on the Aberrant Behavior Checklist at the time of initial assessment and six months after the treatment. The most common diagnosis for each axis was autism (Axis I), mild intellectual disability (Axis II), and seizure disorder (Axis III). The majority of subjects had changes made to the pharmacotherapy regimen, as well as referrals for consultation and therapies. Subjects had significantly less stereotyped behavior and less hyperactivity after interdisciplinary assessment and treatment. A satisfaction survey found that caregivers believed the consultation resulted in an improved quality of life for the subjects

Journal of Attention Disorders. 2008 Nov;12:239-47.

Psychological symptomatology in siblings of children with ADHD .

Listug-Lunde L, Zevenbergen AA, Petros TV.

Objective: Studies utilizing parent-report measures have identified above average levels of internalizing and externalizing problems in siblings of children diagnosed with ADHD. Scant research has examined siblings' self-report on standardized measures of emotional functioning. The current study examined parent-reported and child self-reported symptoms of siblings of children with ADHD compared with a control group.

Method: Measures completed included the Children's Depression Inventory, the Multidimensional Anxiety Scale for Children, the Child Behavior Checklist and the Disruptive Behavior Rating Scale.

Results: Parent-report measures indicated that siblings of children with ADHD had higher levels of internalizing, hyperactivity, and inattention problems compared with control siblings. Significant differences between groups were not revealed on child self-report measures.

Conclusions: Although parent-report measures continue to demonstrate higher levels of symptoms for siblings of children diagnosed with ADHD compared with control siblings, there are no indications that self-reported internalizing symptoms are different.

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J Child Adolesc Psychopharmacol. 2009;19:31-39.

Subcortical differences among youths with attention-deficit/hyperactivity disorder compared to those with bipolar disorder with and without attention-deficit/hyperactivity disorder.

Lopez-Larson M, Michael ES, Terry JE, et al.

Introduction: A significant number of children with bipolar disorder (BP) have co-morbid attention-deficit/hyperactivity disorder (ADHD). It is unknown if these children have neuroimaging findings unique to their co-morbid presentation, or if their brain findings are similar to children diagnosed with BP alone.

Method: Fifty three children with Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) BP (23 with ADHD, 30 without), 29 healthy controls (HC), and 23 children with ADHD, similar in sex and age, had magnetic resonance imaging (MRI) scans on a 1.5T GE scanner. Volumetric assessments were performed for basal ganglia and limbic subcortical structures.

Results: Youths with ADHD had smaller caudate and putamen volumes compared to both BP groups and they had moderately smaller total amygdala volumes compared to the other three groups. Youths with BP + ADHD had moderately larger nucleus accumbens volumes than HC, and females in both BP groups had smaller hippocampal volumes compared to ADHD and HC. No differences were found between the BP and BP + ADHD groups.

Conclusion: These data suggest that morphometric subcortical volumes in youths with BP + ADHD are more similar to those in youths with BP. They do not share subcortical neuroanatomic correlates with the ADHD group. These findings suggest that BP + ADHD is a subtype of pediatric BP rather than severe ADHD.

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Bull Menninger Clin. 2008;72:259-82.

Self-regulation and internal resources in school-aged children with ADHD symptomatology: An investigation using the Rorschach inkblot method.

Meehan KB, Ueng-McHale JY, Reynoso JS, et al.

This study assesses the capacity for emotional self-regulation and internal resources in a sample of urban children with ADHD symptomatology using the Rorschach Inkblot Method (RIM). Because these children have profound difficulty with modulating their affect, it is hypothesized that this difficulty would be reflected on RIM variables that have traditionally been thought to reflect the internal resources necessary for these children to regulate emotions. Children with greater ADHD symptoms were found to display lower scores on variables indicating internal resources for emotional self-regulation and stress tolerance (M, EA) relative to a comparison group with fewer ADHD symptoms. The research and clinical implications of these findings are discussed.

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Eur J Psychiatry. 2008;22:200-10.

Differences in parents' and teachers' ratings of ADHD symptoms and other mental health problems.

Papageorgiou V, Kalyva E, Dafoulis V, et al.

Background and objectives: Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms and other mental health problems appear early in life and proper treatment is essential for a positive long-term outcome. The present study examines the level of agreement, and potential gender differences, between parents' and

teachers' reports of ADHD symptoms and other mental health problems in 305 Greek children aged between 6-9 years.

Methods: Parents and teachers of 147 boys and 158 girls attending the first three grades of 10 primary schools in the wider area of Northern Greece completed the Strength and Difficulties Questionnaire (SDQ-Goodman, 1997) and the Child Attention Profile (CAP-Barkley, 1990).

Results: The level of agreement between parents' and teachers' reports was low to moderate for the SDQ (0.16-0.34) and satisfactory for the CAP (0.60-0.66). Parents reported more hyperactivity, emotional, and conduct problems than teachers according to SDQ and more overactivity and attention-deficit with hyperactivity according to CAP. Gender differences in ratings were found as well, since boys were reported as being more hyperactive according to SDQ and as having more overactivity and attention-deficit with hyperactivity according to CAP than girls.

Conclusions: Findings are discussed in terms of the importance of using multiple informants to gather data on disruptive behaviour through rating scales

Journal of Attention Disorders. 2009 Mar;12:469-73.

Academic performance in ADHD when controlled for comorbid learning disorders, family income, and parental education in Brazil.

Pastura GMC, Mattos P, Araújo AP.

Objective: Scholastic achievement in a nonclinical sample of ADHD children and adolescents was evaluated taking into consideration variables such as comorbid learning disorders, family income, and parental education which may also be associated with poor academic performance.

Method: After screening for ADHD in 396 students, the authors compared academic performance of 26 ADHD individuals and 31 controls paired for gender, age, and intelligence level considering both mathematics and Portuguese language scores. Learning disorders were investigated and the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) criteria were met using structured interviews.

Results: The prevalence of academic underachievement was 2.98 times higher in students with ADHD, the most frequent subtype being predominantly inattentive. Parental educational level, family income, and comorbid learning disorders could not explain the discrepancies between ADHD students and controls.

Conclusions: ADHD seems to be associated with poor academic performance even in the absence of comorbid learning disorders, lower family income, and parental educational level.

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Am J Psychiatry. 2009 Jan;166:74-82.

Basal ganglia volume and shape in children with attention deficit hyperactivity disorder.

Qiu A, Crocetti D, Adler M, et al.

Objective: Volumetric abnormalities of basal ganglia have been associated with attention deficit hyperactivity disorder (ADHD), especially in boys. To specify localization of these abnormalities, large deformation diffeomorphic metric mapping (LDDMM) was used to examine the effects of ADHD, sex, and their interaction on basal ganglia shapes.

Method: The basal ganglia (caudate, putamen, globus pallidus) were manually delineated on magnetic resonance imaging from 66 typically developing children (35 boys) and 47 children (27 boys) with ADHD. LDDMM mappings from 35 typically developing children were used to generate basal ganglia templates. Shape variations of each structure relative to the template were modeled for each subject as a random field using Laplace-Beltrami basis functions in the template coordinates. Linear regression was used to examine group differences in volumes and shapes of the basal ganglia.

Results: Boys with ADHD showed significantly smaller basal ganglia volumes compared with typically developing boys, and LDDMM revealed the groups remarkably differed in basal ganglia shapes. Volume compression was seen bilaterally in the caudate head and body and anterior putamen as well as in the left anterior globus pallidus and right ventral putamen. Volume expansion was most pronounced in the posterior putamen. No volume or shape differences were revealed in girls with ADHD.

Conclusions: The shape compression pattern of basal ganglia in boys with ADHD suggests that ADHD-associated deviations from typical brain development involve multiple frontal-subcortical control loops, including circuits with premotor, oculomotor, and prefrontal cortices. Further investigations employing brain-behavior analyses will help to discern the task-dependent contributions of these circuits to impaired response control that is characteristic of ADHD.

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Am J Psychiatry. 2009 Jan;166:83-94.

Disorder-specific dissociation of orbitofrontal dysfunction in boys with pure conduct disorder during reward and ventrolateral prefrontal dysfunction in boys with pure ADHD during sustained attention.

Rubia K, Smith AB, Halari R, et al.

Objective: Among children, attention deficit hyperactivity disorder (ADHD) and conduct disorder are often comorbid and overlap clinically. Neuropsychological evidence suggests that children with conduct disorder demonstrate more prominent motivational problems and children with ADHD demonstrate more prominent attention deficits relative to healthy comparison subjects. The purpose of the present study was to investigate disorder-specific abnormalities in the neurobiological correlates of motivation and sustained attention in children and adolescents with pure conduct disorder and children and adolescents with pure ADHD.

Method: Participants were male pediatric patients, ages 9-16 years, with noncomorbid conduct disorder (N=14) and noncomorbid ADHD, combined hyperactive-inattentive subtype (N=18), as well as age- and IQ-matched healthy comparison subjects (N=16). Both patient groups were medication naive. Event-related functional magnetic resonance imaging (fMRI) was used to compare brain activation during a rewarded continuous performance task that measured sustained attention as well as the effects of reward on performance.

Results: During the sustained attention condition, patients with noncomorbid ADHD showed significantly reduced activation in the bilateral ventrolateral prefrontal cortex and increased activation in the cerebellum relative to patients with noncomorbid conduct disorder and healthy comparison subjects. Patients with noncomorbid conduct disorder showed decreased activation in paralimbic regions of the insula, hippocampus, and anterior cingulate as well as the cerebellum relative to patients with noncomorbid ADHD and healthy comparison subjects. However, during the reward condition, patients with noncomorbid conduct disorder showed disorder-specific underactivation in the right orbitofrontal cortex, while patients with noncomorbid ADHD showed disorder-specific dysfunction in the posterior cingulate gyrus.

Conclusions: The findings revealed a process-related dissociation of prefrontal dysfunction in ADHD and conduct disorder patients. Attention-related dysfunction in the ventrolateral prefrontal cortex was seen in ADHD patients, and reward-related dysfunction in the orbitofrontal cortex was seen in conduct disorder patients. These findings, together with the pattern of paralimbic dysfunction demonstrated among children with conduct disorder during sustained attention, support theories of abnormalities in orbitofrontal-paralimbic motivation networks in individuals with conduct disorder and, in contrast, ventrolateral fronto-cerebellar attention network dysfunction in individuals with ADHD.

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J Am Acad Child Adolesc Psychiatry. 2009;48:155-65.

Guanfacine extended release in children and adolescents with attention-deficit/hyperactivity disorder: A placebo-controlled trial.

Sallee FR, McGough J, Wigal T, et al.

Objective: This study compared the efficacy of guanfacine extended release (GXR), a selective (alpha)2A-adrenoceptor agonist, with placebo in children and adolescents with attention-deficit/hyperactivity disorder (ADHD).

Method: This double-blind, 9-week, dose-ranging, parallel-design, multicenter trial randomized 6- to 17-year-olds with ADHD to once-daily oral GXR in 1-, 2-, 3-, and 4-mg doses or placebo. Primary outcome was change in total ADHD Rating Scale-IV score from baseline to endpoint. Secondary outcomes included changes in scores of hyperactive/impulsive and inattentive subscales; clinician and parent ratings; duration of clinical effect; and safety measures.

Results: Statistically significant reductions in ADHD Rating Scale-IV scores were observed from baseline to endpoint at all doses of GXR, with effect sizes ranging from 0.43 to 0.62. In subjects receiving GXR, mean heart rate and systolic and diastolic blood pressure decreased as the dose of GXR increased and then returned toward baseline during the dose-maintenance and dose-tapering phases of the trial. Most frequent treatment-emergent adverse events ((greater-than or equal to)5%) were somnolence, headache, fatigue, sedation, dizziness, irritability, upper abdominal pain, and nausea. Somnolence, sedation, and fatigue adverse events emerged within the first 2 weeks of dosing and generally resolved by study end.

Conclusions: Guanfacine extended-release was effective in reducing symptoms of ADHD. Adverse events were mild to moderate, did not interfere with improvements in attention, and rarely led to discontinuation.

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Am J Psychiatry. 2009 Jan;166:58-63.

Psychostimulant treatment and the developing cortex in attention deficit hyperactivity disorder.

Shaw P, Sharp WS, Morrison M, et al.

Objective: While there has been considerable concern over possible adverse effects of psychostimulants on brain development, this issue has not been examined in a prospective study. The authors sought to determine prospectively whether psychostimulant treatment for attention deficit hyperactivity disorder (ADHD) was associated with differences in the development of the cerebral cortex during adolescence.

Method: Change in cortical thickness was estimated from two neuroanatomic MRI scans in 43 youths with ADHD. The mean age at the first scan was 12.5 years, and at the second scan, 16.4 years. Nineteen patients not treated with psychostimulants between the scans were compared with an age-matched group of 24 patients who were treated with psychostimulants. Further comparison was made against a template derived from 620 scans of 294 typically developing youths without ADHD.

Results: Adolescents taking psychostimulants differed from those not taking psychostimulants in the rate of change of the cortical thickness in the right motor strip, the left middle/inferior frontal gyrus, and the right parieto-occipital region. The group difference was due to more rapid cortical thinning in the group not taking psychostimulants (mean cortical thinning of 0.16 mm/year [SD = 0.17], compared with 0.03 mm/year [SD = 0.11] in the group taking psychostimulants). Comparison against the typically developing cohort without ADHD showed that cortical thinning in the group not taking psychostimulants was in excess of age-appropriate rates. The treatment groups did not differ in clinical outcome, however.

Conclusions: These findings show no evidence that psychostimulants were associated with slowing of overall growth of the cortical mantle.

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Journal of Attention Disorders. 2009 Mar;12:402-09.

Children with attention deficits concentrate better after walk in the park.

Taylor AF, Kuo FE.

Objective: In the general population, attention is reliably enhanced after exposure to certain physical environments, particularly natural environments. This study examined the impacts of environments on attention in children with ADHD.

Method: In this within subjects design, each participant experienced each of three treatments (environments) in single blind controlled trials. Seventeen children 7 to 12 years old professionally diagnosed with ADHD experienced each of three environments—a city park and two other well-kept urban settings—via individually guided 20-minute walks. Environments were experienced 1 week apart, with randomized assignment to treatment order. After each walk, concentration was measured using Digit Span Backwards.

Results: Children with ADHD concentrated better after the walk in the park than after the downtown walk ($p=.0229$) or the neighborhood walk ($p=.0072$). Effect sizes were substantial (Cohen's $d=.52$ and $.77$, respectively) and comparable to those reported for recent formulations of methylphenidate.

Conclusion: Twenty minutes in a park setting was sufficient to elevate attention performance relative to the same amount of time in other settings. These findings indicate that environments can enhance attention not only in the general population but also in ADHD populations. "Doses of nature" might serve as a safe, inexpensive, widely accessible new tool in the tool kit for managing ADHD symptoms.

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Journal of Attention Disorders. 2009 Mar;12:460-68.

Children's self-reports on perceived effects on taking stimulant medication for ADHD.

Thorell LB, Dahlström K.

Objective: This study investigates children's views on positive and negative effects of stimulant medication for ADHD and the children's willingness to stop taking medication.

Method: Questionnaire data were collected from 79 children with ADHD and one of each child's parents.

Results/Conclusion: Swedish children treated with stimulants generally experienced positive treatment effects in many areas, especially in the school setting, and a majority wished to continue taking their medication. There was, however, a small group of children who reported a relatively large number of negative effects. Few differences between parents and children were found for positive effects, although parents reported higher levels of negative effects. Results also indicate that the child's knowledge of why he or she is on stimulant medication and the parent's views of medication are important factors to take into consideration as they influence the child's willingness to continue his or her medication.

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Journal of Attention Disorders. 2009 Mar;12:410-21.

Vigilance and sustained attention in children and adults with ADHD.

Tucha L, Tucha O, Walitza S, et al.

Objective: The present article tests the hypothesis of a sustained attention deficit in children and adults suffering from ADHD.

Method: Vigilance and sustained attention of 52 children with ADHD and 38 adults with ADHD were assessed using a computerized vigilance task. Furthermore, the attentional performance of healthy children (N=52) and healthy adults (N=38) was examined.

Results: Children and adults with ADHD performed significantly less well in the vigilance task than healthy participants (main effect for group). Furthermore, children and adults showed a significant decrease of performance over time (time-on-task effects). However, there was no greater decrement of performance with the passage of time in patient groups than in control groups (group-by-time interaction).

Conclusion: The present results do not support the hypothesis of a sustained attention deficit in children and adults with ADHD.

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Journal of Attention Disorders. 2008 Nov;12:218-26.

Adults with ADHD benefit from cognitive-behaviorally oriented group rehabilitation: A study of 29 participants.

Virta M, Vedenpää A, Grönroos N, et al.

Objective: In clinical practice, a growing need exists for effective nonpharmacological treatments of adult ADHD. The authors present results from a cognitive-behaviorally oriented psychological group rehabilitation for adult ADHD.

Method: A total of 29 adults with ADHD participated. Rehabilitation consisted of 10 or 11 weekly sessions. Participants were assessed with self-ratings (checklist for ADHD based on the Diagnostic and Statistical Manual of Mental Disorders, Beck Depression Inventory II, Symptom Check List-90 [SCL-90], Brown ADD Scale for Adults [BADDS]), and the ratings of their significant others (BADDS) 3 months prior to treatment, at the beginning of treatment, and at the end of treatment. Also, the Wender Utah Rating Scale questionnaire was completed prior to rehabilitation.

Results: Rehabilitation resulted in reduced self-reported symptoms in 16 ADHD-related items of SCL-90, BADDS total score, and BADDS subdomains of activation and affect.

Conclusion: Results suggest that cognitive-behavioral group rehabilitation can be suitable in treating adult ADHD.

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Journal of Attention Disorders. 2009 Mar;12:391-93.

The soft underbelly of research in the psychosocial treatment of ADHD.

Weiss MD, Yeung C, Rea K, et al.

Just as we know little about what actually takes place behind the closed doors in the homes of our patients' families, we also know very little about the precise manner in which psychosocial treatments are employed by medical and mental health professionals in their daily practice. Despite hundreds of articles demonstrating the efficacy of psychosocial treatments for a broad range of childhood disorders including ADHD (Diller & Goldstein, 2006), the consistency and manner in which these interventions are applied in clinical practice are poorly understood. Many children receiving community care have limited access to specialized psychosocial interventions for ADHD. Yet as the Multimodal Treatment Study of ADHD (MTA) demonstrated, children in comprehensive, consistently administered treatment programs appear to fare better than children provided with community care. (for review, see Swanson et al., 2008). We strongly believe that it is time for this gap in the scientific literature to be carefully investigated.

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BMC Psychiatry. 2009;9.

Association study of promoter polymorphisms at the dopamine transporter gene in Attention Deficit Hyperactivity Disorder.

Xu X, Mill J, Sun B, et al.

Background: Attention deficit hyperactivity disorder (ADHD) is a complex neurobehavioral disorder. The dopamine transporter gene (DAT1/SLC6A3) has been considered a good candidate for ADHD. Most association studies with ADHD have investigated the 40-base-pair variable number of tandem repeat (VNTR) polymorphism in the 3'-untranslated region of DAT1. Only few studies have reported association between promoter polymorphisms of the gene and ADHD.

Methods: To investigate the association between the polymorphisms -67A/T (rs2975226) and -839C/T (rs2652511) in promoter region of DAT1 in ADHD, two samples of ADHD patients from the UK (n=197) and Taiwan (n=212) were genotyped, and analysed using within-family transmission disequilibrium test (TDT).

Results: A significant association was found between the T allele of promoter polymorphism -67A/T and ADHD in the Taiwanese population (P = 0.001). There was also evidence of preferential transmission of the T allele of -67A/T polymorphism in combined samples from the UK and Taiwan (P=0.003). No association was detected between the -839C/T polymorphism and ADHD in either of the two populations.

Conclusion: The finding suggests that genetic variation in the promoter region of DAT1 may be a risk factor in the development of ADHD.

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“Sicurezza a lungo termine dei farmaci utilizzati nel trattamento di bambini in età scolare con sindrome da deficit di attenzione e iperattività ed epidemiologia della malattia nella popolazione italiana”.

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