



ADHD

ATTENTION DEFICIT HYPERACTIVITY DISORDER


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J Child Adolesc Psychopharmacol. 2007 Dec;17:791-802.

Acetyl-L-carnitine (ALC) in attention-deficit/hyperactivity disorder: a multi-site, placebo-controlled pilot trial.

Arnold LE, Amato A, Bozzolo H, et al.

OBJECTIVE: To determine whether acetyl-L-carnitine (ALC), a metabolite necessary for energy metabolism and essential fatty acid anabolism, might help attention-deficit/hyperactivity disorder (ADHD). Trials in Down's syndrome, migraine, and Alzheimer's disease showed benefit for attention. A preliminary trial in ADHD using L-carnitine reported significant benefit. **METHOD:** A multi-site 16-week pilot study randomized 112 children (83 boys, 29 girls) age 5-12 with systematically diagnosed ADHD to placebo or ALC in weight-based doses from 500 to 1500 mg b.i.d. The 2001 revisions of the Conners' parent and teacher scales (including DSM-IV ADHD symptoms) were administered at baseline, 8, 12, and 16 weeks. Analyses were ANOVA of change from baseline to 16 weeks with treatment, center, and treatment-by-center interaction as independent variables. **RESULTS:** The primary intent-to-treat analysis, of 9 DSM-IV teacher-rated inattentive symptoms, was not significant. However, secondary analyses were interesting. There was significant ($p = 0.02$) moderation by subtype: superiority of ALC over placebo in the inattentive type, with an opposite tendency in combined type. There was also a geographic effect ($p = 0.047$). Side effects were negligible; electrocardiograms, lab work, and physical exam unremarkable. **CONCLUSION:** ALC appears safe, but with no effect on the overall ADHD population (especially combined type). It deserves further exploration for possible benefit specifically in the inattentive type.

Eur Psychiatry. 2008 Mar;23:134-41.

Attention deficit/hyperactivity disorder and video games: A comparative study of hyperactive and control children.

Bioulac Sp, Arfi L, Bouvard MP.

Introduction: This study describes and compares the behavior of hyperactive and control children playing video games. **Subjects and Methods:** The sample consisted of 29 ADHD children and 21 controls aged between 6 and 16 years playing video games. We used the Child Behavior Checklist and the Problem Videogame Playing scale (PVP scale). This instrument gives objective measures of problem use, which can be considered as an indication of addictive videogame playing. We designed a questionnaire for the parents, eliciting qualitative information about their child's videogame playing. There were no significant differences concerning frequency or duration of play between ADHD children and controls but differences were observed on the PVP scale. None of the controls scored above four whereas 10 hyperactive children answered affirmatively to five or more questions. These children presented a greater intensity of the disorder than the other ADHD children. **Conclusion:** While no differences concerning video game use were found, ADHD children exhibited more problems associated with videogame playing. It seems that a subgroup of ADHD children could be vulnerable to developing dependence upon video games. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

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.

J Clin Psychiatry. 2008 Jan;69:141-48.

Informant agreement in the assessment of disruptive behavior disorders in detained minors in Belgium: a diagnosis-level and symptom-level examination.

Colins O, Vermeiren R, Schuyten G, et al.

OBJECTIVE: Because diagnostic assessment of children emphasizes information from multiple informants, the reliability of findings in detained and incarcerated samples may be hampered. The objective of the current study was to examine parent-child agreement with regard to disruptive behavior disorders (with or without impairment) and disorder-related symptoms in detained male youths. **METHOD:** Between January 2005 and February 2007, a representative sample of 150 detainees, 12 to 17 years old, from the 3 Youth Detention Centers for boys in Flanders, Belgium, and 1 parent of each were interviewed with the Diagnostic Interview Schedule for Children, Version IV (DISC-IV). Interviewees were selected consecutively on the basis of Belgian origin for practical, financial, and time-related reasons. Of the 150 participants, 9 were excluded and the parents of 26 could not be included for various reasons, and thus full data were obtained for 115 parents. **RESULTS:** Overall poor parent-child agreement at the disorder and symptom level was found, which is consistent with previous studies. Parents reported significantly more unique information on attention-deficit/hyperactivity disorder (ADHD) ($p < .001$) and oppositional defiant disorder (ODD) ($p < .001$), while youths reported significantly more unique conduct disorder (CD)-related information ($p = .01$). **CONCLUSION:** The large proportion of parents uniquely reporting ADHD and ODD supports previous concerns about the reliability of self-reported ADHD and ODD and suggests an essential contribution by parents to the accurate assessment of these disorders in adolescent detainees. With regard to CD, it may be appropriate to rely on youth self-report.

Neuropsychology. 2008 Mar;22:217-25.

Visual search performance in children rated as good or poor attenders: The differential impact of DAT1 genotype, IQ, and chronological age.

Cornish KM, Wilding JM, Hollis C.

Attention-deficit/hyperactivity disorder (ADHD) is characterized by poor attention to detail, poor attention maintenance, and variability throughout task performance. The authors used a quantitative trait loci approach to assess the association between the dopamine transporter (DAT1) high-risk genotype, cognitive performance (visual search and vigilance), and ADHD symptoms in a community sample of boys 6-11 years of age. The potential confounding effects of IQ and chronological age were also investigated. Results demonstrate that accuracy in target detection, not speed, distinguishes poor attenders from good attenders. The authors speculate that the measure of performance (e.g., time and false alarms) may be critical in detecting attentional weaknesses. In contrast, DAT1 gene, known to be associated with the behavioral symptoms of ADHD, was unrelated to visual search or vigilance performance, although it was related to ADHD symptoms. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract)

Human Movement Science. 2008 Feb;27:154-69.

Co-occurring disorders: A possible key to visual perceptual deficits in children with developmental coordination disorder?

Crawford SG, Dewey D.

A study was conducted to examine how visual perceptual functioning in children with DCD may be influenced by co-occurring learning problems such as reading disabilities (RD) and/or attention deficit hyperactivity disorder (ADHD). Participants included seven groups of children: 27 children with DCD only, 11 with ADHD only, 14 with RD only, 63 with DCD and at least one other disorder (i.e., DCD + ADHD, DCD + RD, DCD + ADHD + RD), and 73 typically developing controls. Visual perceptual skills were assessed using the Test of Visual Perceptual Skills (TVPS) and the Rey Osterreith Complex Figure (ROCF; copy and delayed recall). Children with DCD and at least one other disorder were found to have impairments on the TVPS compared to children with DCD only, ADHD only, and typically developing controls, particularly on subtests assessing visual memory. On the ROCF, children with DCD and at least one other disorder scored significantly lower than children with ADHD only or RD only. Children with DCD plus one other disorder were then subdivided into three groups: DCD + ADHD, DCD + RD, and DCD + ADHD + RD and compared to children with DCD only, ADHD only, and RD only. Results indicated that children with DCD + ADHD + RD had significant impairments on the TVPS compared to children with DCD only and children with ADHD only. On the ROCF, children with DCD + ADHD + RD scored significantly lower than all of the groups, except the

DCD + RD group. These findings suggest that DCD on its own is not associated with visual perceptual problems; rather, it is the presence of co-occurring disorders that is a possible key to visual perceptual deficits in children with DCD. The number of co-occurring disorders present with DCD is associated with the severity of the visual perceptual dysfunction. Deficits in visual memory skills appear to be a specific area of difficulty for children with DCD and co-occurring RD and/or ADHD. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

J Clin Psychiatry. 2008 Jan;69:130.

Attention-deficit/hyperactivity disorder: advances in diagnostic and therapeutic approaches.
DelBello MP.

J Clin Psychiatry. 2008 Jan;69:131-40.

National survey of adherence, efficacy, and side effects of methylphenidate in children with attention-deficit/hyperactivity disorder in Taiwan.

Gau SS, Chen SJ, Chou WJ, et al.

OBJECTIVES: To identify the determinants of adherence to immediate-release (IR) methylphenidate in children and adolescents with attention-deficit/hyperactivity disorder (ADHD); to examine the impact of adherence on ADHD-related symptoms; and to compare the efficacy, adherence, and side effects of IR methylphenidate and osmotic release oral system (OROS) methylphenidate. METHOD: This national survey, involving 12 hospitals, consisted of 2 phases of assessment. Treatment adherence in 240 (39.5%) of the 607 children aged 5 to 16 years with a clinical diagnosis of DSM-IV ADHD enrolled in the study was poor (defined as missing ≥ 1 dose of ADHD medication a day and on 2 days or more during school days). Children with poor adherence at phase 1 were able to switch to OROS methylphenidate, while adherents remained on the IR variant. We reassessed 124 poor adherents who switched to OROS methylphenidate. The global ADHD severity, parent-child interaction, classroom behavior, academic performance, and side effects of the child subjects were evaluated by investigators. Parents completed the rating scales about the ADHD-related symptoms. The study began in April 2005 and was completed in February 2006. RESULTS: Determinants for poor adherence included older age, later onset of ADHD, family history of ADHD, higher paternal education level, and multi-dose administration. Mental retardation and treatment at medical centers were inversely related to poor adherence. Overall, poor adherence was associated with more severe ADHD-related symptoms by comparison to good adherence. Similar side effect profile, superior adherence, and improved efficacy were demonstrated in intra-individual comparison of the OROS and IR methylphenidate forms. CONCLUSION: Given that poor adherence to medication may be an important reason for suboptimal outcome in ADHD treatment, physicians should ensure adherence with therapy before adjusting dosage or switching medication. TRIAL REGISTRATION: clinicaltrials.gov Identifier NCT00460720.

Addictive Behaviors. 2008 Mar;33:451-63.

Childhood attention deficit hyperactivity disorder and the development of substance use disorders: Valid concern or exaggeration?

Looby A.

Attention deficit hyperactivity disorder (ADHD) is a common childhood disorder associated with many behavioral problems in adolescence and adulthood. In particular, researchers have identified comorbid substance use disorders in many adolescents and young adults who were diagnosed with ADHD as children. Conflicting reports exist regarding the developmental risk for substance use problems and disorders in these individuals. This paper reviews the recent literature evaluating the relationship between childhood ADHD and substance use. Research suggests that in the absence of conduct disorder, ADHD carries only a moderate risk for subsequent substance use. Degree of risk appears to be related to specific drugs of abuse and particular ADHD symptoms. Additionally, whether stimulant treatment of ADHD symptoms predisposes children to later substance use is an important concern. Currently, little evidence exists to support this notion and most research suggests that stimulant treatment serves as a protective factor for substance use. ADHD is an important precursor to subsequent disorders in children and further research is necessary to diminish

the risk for substance use in this population. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

Brain Cogn. 2008 Mar;66:188-95.

Differences in paper-and-pencil versus computerized line bisection according to ADHD subtype and hand-use.

Rolfe MHS, Hamm JP, Waldie KE.

Two versions of the line bisection task, paper-and-pencil and computerized, were administered to non-medicated children (5-12 years) with and without Attention-Deficit/Hyperactivity Disorder (ADHD). Fifteen children were classified with ADHD-Inattentive type (ADHD-I), 15 were classified with ADHD-Combined or Hyperactive-Impulsive type (ADHD-C), and 15 children served as controls. During the paper-and-pencil task, and irrespective of hand-use, participants with ADHD-C bisected lines with a right bias, whereas participants with ADHD-I showed a leftwards bias. Interestingly, during the computerized version, an opposite pattern of hemineglect was observed with a leftwards bias for participants with ADHD-C and a rightwards bias for participants with ADHD-I. These findings suggest that different task demands are associated with the paper-and-pencil and computerized tasks. The findings also suggest that the two subtypes differ according to their cognitive profile, and possibly differ as to their underlying neural impairment. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

Psychology in the Schools. 2008 Feb;45:145-57.

Examining the relationship between treatment outcomes for academic achievement and social skills in school-age children with attention-deficit hyperactivity disorder.

Rutherford LE, DuPaul GJ, Jitendra AK.

The purpose of this study was to determine the relationship between treatment-induced changes in academic achievement and social skills in elementary school-age children with attention-deficit hyperactivity disorder. A sample of 123 children in grades 1 through 4 with symptoms of inattention, impulsivity and/or hyperactivity, and significant achievement problems in math or reading were identified for participation. Participants were exposed to academic interventions mediated by their teachers, parents, peers, computers, or the student themselves. Data were collected on academic competence using the Woodcock-Johnson III Test of Achievement and the Academic Competence Evaluation Scales; social skills were assessed using the Social Skills Rating System. Correlations between changes in academic competence and social skills from pre-intervention to approximately 10 months later were calculated. Results showed that as teacher ratings of reading improved, there were corresponding improvements in social skills. For students in peer-mediated math interventions, increases in math fluency were correlated with improvements in self-control. Results are discussed in the context of possible reasons for these findings and implications for practice and future research. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

J Child Adolesc Psychopharmacol. 2007 Dec;17:831-42.

The Life Participation Scale for Attention-Deficit/Hyperactivity Disorder--Child Version: psychometric properties of an adaptive change instrument.

Saylor K, Buermeyer C, Sutton V, et al.

INTRODUCTION: The Life Participation Scale for Attention-Deficit/Hyperactivity Disorder (ADHD)-Child Version (LPS-C) was developed to capture treatment-related improvements in adaptive functioning, including quality of life, social development, and emotion regulation, that may be missed by scales that assess only the 18 ADHD symptoms in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV). The 24-item LPS-C is intended to augment traditional ADHD measures. This analysis assessed the scale's psychometric properties. **METHODS:** The LPS-C was completed by the investigators while questioning the parents of 979 children in three placebo-controlled clinical trials that measured the effects of atomoxetine for treating ADHD. In addition to a factor analysis, assessments of responsiveness; internal consistency; item-to-total correlations; and convergent, divergent, and discriminant validity were completed. **RESULTS:** The LPS-C showed evidence of internal consistency and convergent, divergent, and discriminant validity. The factor analysis suggested two subscales (labeled the Self-Control and Agreeable subscales). The LPS-C

demonstrated responsiveness in two of the three trials. The effect sizes suggest responsiveness between that for psychosocial measures and core symptom measures. CONCLUSIONS: The LPS-C appears to be a valid research and clinical instrument for assessing change in ADHD-related adaptive functioning that may not be captured by traditional measures of core ADHD symptoms.

J Child Adolesc Psychopharmacol. 2007 Dec;17:803-12.

Reboxetine maintenance treatment in children with attention-deficit/hyperactivity disorder: a long-term follow-up study.

Toren P, Ratner S, Weizman A, et al.

OBJECTIVE: This open-label study assessed the long-term effectiveness and tolerability of reboxetine maintenance treatment in children with attention-deficit/hyperactivity disorder (ADHD). METHODS: Six children aged 9-13 (mean +/- standard deviation, SD, 10.7 +/- 1.6) years, diagnosed with ADHD and successfully treated with reboxetine for 6 weeks were enrolled in a long-term (18-36 months) follow-up study. Assessments included rater-administered scales (ADHD Rating Scale; Clinical Global Impressions Scale) and a parent-administered scale (the Abbreviated Conners' Rating Scale). The safety and tolerability were evaluated by documenting spontaneous self-reported adverse effects as well as by vital signs, electrocardiogram, body weight, and routine blood screen. Reboxetine was maintained at a dose of 4 mg/day. RESULTS: The children were followed up to 36 months (mean +/- SD, 24 +/- 6.6; range, 18-36). The significant decrease in ADHD symptoms achieved in the short-term phase (first 6 weeks) was maintained throughout the study. No new onset adverse effects was detected during this follow-up period. No suicidal attempt or ideation was noted. CONCLUSIONS: The results suggest the long-term effectiveness and safety of reboxetine maintenance treatment in children with ADHD. Future large-scale, long-term, placebo/comparator-controlled studies should assess the benefit/risk ratio of reboxetine in ADHD children.

J Clin Psychiatry. 2007;68 Suppl 11:23-30.

Managing attention-deficit/hyperactivity disorder in the presence of substance use disorder.

Upadhyaya HP.

Patients with attention-deficit/hyperactivity disorder (ADHD), especially adolescents and young adults, commonly have comorbid conditions, including substance use disorder (SUD), which can complicate the treatment and management of both illnesses. Patients with ADHD and SUD have an earlier age at onset of SUD, may take longer to achieve remission than those with only SUD, and are likely to have a longer course, poorer outcome, and higher rates of other psychiatric comorbidities. There is evidence of misuse and diversion with stimulant medications, which raises several safety concerns. Studies of pharmacotherapy for ADHD and comorbid SUD are limited but have shown that stimulant medications probably do not exacerbate the SUD. Nonstimulant medications for ADHD and extended-release stimulant formulations are available and may be less likely to be misused or diverted. Understanding the motives for drug use and misuse is important in treating patients with ADHD and comorbid SUD. A number of tools are available to the clinician to detect substance use problems in patients with ADHD, including drug and alcohol screening questionnaires and toxicology screens. Clinical recommendations for treating this dual diagnosis include using nonstimulant agents or extended-release stimulant formulations in conjunction with psychosocial therapies to treat both the ADHD and the SUD.

J Child Adolesc Psychopharmacol. 2007 Dec;17:813-30.

Effectiveness of atomoxetine and quality of life in children with attention-deficit/hyperactivity disorder as perceived by patients, parents, and physicians in an open-label study.

Wehmeier PM, Dittmann RW, Schacht A, et al.

OBJECTIVES: Health-related quality of life in children with attention-deficit/hyperactivity disorder (ADHD) may improve with atomoxetine treatment. However, the degree of improvement may be perceived differently by patients, parents, and physicians. The primary aim of this study was to investigate ADHD-related difficulties as perceived from these three perspectives and to compare the perspectives. The degree of perceived difficulties was taken to reflect the health-related quality of life of patients in the study. A second objective was to assess the effectiveness of atomoxetine in children with ADHD in an open-label setting.

METHODS: Children aged 6-11 years with ADHD were treated for 24 weeks with atomoxetine at a target dose of 0.5-1.2 mg/kg per day. ADHD-related difficulties were assessed after 8 and 24 weeks of treatment using the newly devised Global Impression of Perceived Difficulties (GIPD) scale. This instrument, that has not yet been psychometrically validated, reflects patient quality of life from the three perspectives. Agreement among the perspectives was determined using Cohen's kappa. **RESULTS:** A total of 262 patients was treated with atomoxetine. The mean dose for the respective visit intervals ranged between 1.15 and 1.17 mg/kg per day. Quality of life as reflected by the degree of perceived difficulties improved over time. Change in GIPD scores was greatest within the first 2 weeks. The course of the mean GIPD total scores over time showed a similar pattern among the three different rater perspectives. However, patients perceived the degree of difficulties as significantly less compared to parents and physicians. Agreement of ratings was highest between physicians and parents. **CONCLUSIONS:** Results from the GIPD suggest that patient quality of life improves with time on atomoxetine. The effectiveness of atomoxetine in an open-label study was very similar to the effectiveness shown in placebo-controlled trials.

J Clin Psychiatry. 2007;68 Suppl 11:4-8.

The nature of the relationship between attention-deficit/hyperactivity disorder and substance use.

Wilens TE.

This report examines the developmental relationship between attention-deficit/hyperactivity disorder (ADHD) and substance use disorders (SUD) and associated concurrent disorders relative to adolescents and adults. ADHD is a risk factor for the development of SUD in adulthood, and it is particularly of concern with conduct and bipolar disorder comorbidities. Conversely, approximately one fifth of adults with SUD have ADHD. Individuals with SUD and ADHD have a more severe and complicated course of SUD. Pharmacotherapeutic treatment of ADHD in children reduces the risk for later cigarette smoking and SUD in adulthood.

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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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