



ADHD

ATTENTION DEFICIT HYPERACTIVITY DISORDER


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NEWSLETTER

Numero 10 - Ottobre 2008

Rev Psiquiatr Clin. 2008;35:159-64.

Attention-deficit and disruptive behavior disorders: Association with physical abuse in childhood.

Abramovitch S, Maia MC, Cheniaux E.

Background: Many psychiatric disorders diagnosed at the first time in childhood are associated with child abuse, like physical abuse. This disorders cause an important impact on the childhood development.

Objectives: To investigate the association between children with attention-deficit and disruptive behavior disorders group (ADDBD) and physical abuse in childhood.

Methods: Cross-sectional study using the MINI KID (Mini International Neuropsychiatric Interview for Children and Adolescents) to evaluate children with and without the diagnostic of ADDBD group. Physical abuse was evaluated using the LSC-R (Life Stressor Checklist - Revised) and included others child abuses.

Results: We found a higher odds ratio for frequent exposure to physical abuse ($p = 0,02$) in the ADDBD group than in the group without this diagnostic. No association between mood ($p = 0,67$) and anxiety ($p = 0,57$) disorders and physical abuse. We found a temporal association (66,6%) between ADDBD group and physical abuse. After adjusting for potential confounding factors, we found significantly higher odds ratio to the association between boys and physical abuse than did girls ($p = 0,001$).

Discussion: Our findings document an association between ADDBD group and physical abuse in childhood period.

Biol Psychiatry. 2008 Oct;64:615-25.

Action monitoring in boys with attention-deficit/hyperactivity disorder, their nonaffected siblings, and normal control subjects: Evidence for an endophenotype .

Albrecht B, Brandeis D, Uebel H, et al.

Background: Attention-deficit/hyperactivity disorder (ADHD) is a very common and highly heritable child psychiatric disorder associated with dysfunctions in fronto-striatal networks that control attention and response organization. The aim of this study was to investigate whether features of action monitoring related to dopaminergic functions represent endophenotypes that are brain functions on the pathway from genes and environmental risk factors to behavior.

Methods: Action monitoring and error processing as indicated by behavioral and electrophysiological parameters during a flanker task were examined in boys with ADHD combined type according to DSM-IV ($n=68$), their nonaffected siblings ($n=18$), and healthy control subjects with no known family history of ADHD ($n=22$).

Results: Boys with ADHD displayed slower and more variable reaction-times. Error negativity (Ne) was smaller in boys with ADHD compared with healthy control subjects, whereas nonaffected siblings displayed intermediate amplitudes following a linear model predicted by genetic concordance. The three groups did not differ on error positivity (Pe). The N2 amplitude enhancement due to conflict (incongruent flankers) was reduced in the ADHD group. Nonaffected siblings also displayed intermediate N2 enhancement.

Conclusions: Converging evidence from behavioral and event-related potential findings suggests that action monitoring and initial error processing, both related to dopaminergically modulated functions of anterior cingulate cortex, might be an endophenotype related to ADHD.

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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 Abnorm Child Psychol. 2008 Oct;36:989-98.

ADHD and behavioral inhibition: A re-examination of the stop-signal task .

Alderson RM, Rapport MD, Sarver DE, et al.

The current study investigates two recently identified threats to the construct validity of behavioral inhibition as a core deficit of attention-deficit/hyperactivity disorder (ADHD) based on the stop-signal task: calculation of mean reaction time from go-trials presented adjacent to intermittent stop-trials, and non-reporting of the stop-signal delay metric. Children with ADHD (n=12) and typically developing (TD) children (n=11) were administered the standard stop-signal task and three variant stop-signal conditions. These included a no-tone condition administered without the presentation of an auditory tone; an ignore-tone condition that presented a neutral (i.e., not associated with stopping) auditory tone; and a second ignore-tone condition that presented a neutral auditory tone after the tone had been previously paired with stopping. Children with ADHD exhibited significantly slower and more variable reaction times to go-stimuli, and slower stop-signal reaction times relative to TD controls. Stop-signal delay was not significantly different between groups, and both groups' go-trial reaction times slowed following meaningful tones. Collectively, these findings corroborate recent meta-analyses and indicate that previous findings of stop-signal performance deficits in ADHD reflect slower and more variable responding to visually presented stimuli and concurrent processing of a second stimulus, rather than deficits of motor behavioral inhibition.

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Child Adolesc Psychiatr Clin North Am. 2008;17:713-38.

Treatment of Inattention, Overactivity, and Impulsiveness in Autism Spectrum Disorders.

Aman MG, Farmer CA, Hollway J, et al.

We reviewed the recent literature on medicines used to manage inattention, impulsiveness, and overactivity in children with pervasive developmental disorders (autistic disorder, pervasive developmental disorder not otherwise specified, Asperger's disorder) using computer searches of pharmacologic studies. A substantial number of reports were identified and summarized. The literature tends to be dominated by uncontrolled studies, although the number of controlled trials is growing. Findings are described for psychostimulants, noradrenergic reuptake inhibitors, antipsychotics, alpha adrenergic agonists, antidepressants, anxiolytics, cholinesterase inhibitors, N-methyl-D-aspartate receptor blockers, and antiepileptic mood stabilizers. Evidence for a positive effect is strongest for psychostimulants, noradrenergic reuptake inhibitors, antipsychotics, and alpha adrenergic agonists. Evidence for efficacy seems weakest for newer antidepressants, anxiolytics, and mood stabilizers.

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Arch Dis Child Educ Pract Ed. 2008;93:131-32.

Does atomoxetine increase risk of aggression and hostility in children with attention deficit hyperactivity disorder?

Banerjee S, Ayyash HF.

Neuropsychopharmacology. 2008;33:2536-45.

Spatial attentional bias as a marker of genetic risk, symptom severity, and stimulant response in ADHD.

Bellgrove MA, Barry E, Johnson KA, et al.

Attention-deficit hyperactivity disorder (ADHD) is a heritable childhood onset disorder that is marked by variability at multiple levels including clinical presentation, cognitive profile, and response to stimulant medications. It has been suggested that this variability may reflect etiological differences, particularly, at the level of underlying genetics. This study examined whether an attentional phenotype-spatial attentional bias could serve as a marker of symptom severity, genetic risk, and stimulant response in ADHD. A total of 96 children and adolescents with ADHD were assessed on the Landmark Task, which is a sensitive measure of spatial attentional bias. All children were genotyped for polymorphisms (3' untranslated (UTR) and intron 8 variable number of tandem repeats (VNTRs)) of the dopamine transporter gene (DAT1). Spatial attentional bias correlated with ADHD symptom levels and varied according to DAT1 genotype. Children who were

homozygous for the 10-repeat allele of the DAT1 3'-UTR VNTR displayed a rightward attentional bias and had higher symptom levels compared to those with the low-risk genotype. A total of 26 of these children who were medication naive performed the Landmark Task at baseline and then again after 6 weeks of stimulant medication. Left-sided inattention (rightward bias) at baseline was associated with an enhanced response to stimulants at 6 weeks. Moreover, changes in spatial bias with stimulant medications, varied as a function of DAT1 genotype. This study suggests an attentional phenotype that relates to symptom severity and genetic risk for ADHD, and may have utility in predicting stimulant response in ADHD.
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Med Princ Pract. 2008;17:440-46.

The prevalence of attention deficit hyperactivity symptoms in schoolchildren in a highly consanguineous community.

Bener A, Al Qahtani R, Teebi AS, et al.

Objective: The objective of the present study was to find the prevalence of attention deficit hyperactivity (ADH) symptoms in a sample of primary schoolchildren in Qatar and investigate the behaviour of the children with and without ADH symptoms in a highly consanguineous community.

Subjects and Methods: A total of 2,500 primary school students, aged 6-12 years, were randomly selected from the government primary schools, and 1,869 students (947 boys and 922 girls) gave consent to participate in this study. An Arabic questionnaire was used to collect the sociodemographic variables and a standardized Arabic version of the Conners' Teacher Rating Scale for ADH symptoms.

Results: Of the 947 boys, 158 (16.7%; 95% confidence interval, CI, 14.4-19.2) and of the 922 girls, 50 (5.4%; 95% CI 4.1-7.1) scored above the cut-off ((greater-than or equal to)15) for ADH symptoms, thus giving an overall prevalence of 11.1% (95% CI 9.7-12.6). The children who had higher scores for ADH symptoms were in the age group of 6-9 years. Children who had higher scores for ADH symptoms had a poorer school performance than those with lower scores ($p = 0.002$). Two hundred (96.2%) children with ADH were disobedient, 126 (60.6%) noisy and hyperactive, 76 (36.5%) very cranky, 78 (37.5%) troublesome and 79 (37.9%) nervous. The logistic regression identified socio-economic condition, number of children, school performance and poor relationship between parents as the main contributors to ADH. Although the univariate analysis showed a significant relationship ($p = 0.010$) between ADH symptoms and consanguineous parents, logistic regression did not support this association ($p = 0.075$). This suggests that consanguinity has no impact on ADH children.

Conclusion: The study revealed that ADH is a common problem among schoolchildren. The children with higher scores for ADH symptoms had a poorer school performance than those with lower scores. A significant difference exists between the behaviour of children with and without ADH.

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Arch Gen Psychiatry. 2008;65:1080-86.

Stability of psychiatric outcomes of low birth weight: A longitudinal investigation.

Bohnert KM, Breslau N.

Context: Research on psychiatric disturbances in low-birth-weight (LBW) children ((less-than or equal to)2500 g), which has focused primarily on the extreme low end of the LBW distribution, has suggested an increased risk of attention, externalizing, and internalizing problems.

Objective: To examine the long-term effects of LBW on psychiatric problems in socially disadvantaged children and in middle-class children.

Design: A stratified random sample assessed at ages 6, 11, and 17 years. Setting: Random samples of LBW and normal-birth-weight children from newborn discharge lists (f983 through f 985) of 2 major hospitals in southeast Michigan, one serving an inner city and the other serving middle-class suburbs.

Participants: Cohort members with 1 or more assessments ($n=823$).

Main Outcome Measures: Attention, internalizing, and externalizing problems rated by mothers and teachers (Child Behavior Checklist and Teacher's Report Form, respectively) at ages 6, 11, and 17 years, using standard cutoffs that identify children with disturbances above the normal range. Results: Low-birth-weight children had modest excesses of externalizing and internalizing disturbances (adjusted odds ratios =1.53 and 1.28, respectively) ($P=.001$ and $.02$, respectively). An increased risk of attention problems was associated with LBW only in the urban community (adjusted odds ratio = 2.78) ($P=.001$) and was greater among very LBW children ((less-than or equal to)1500 g) than heavier LBW children (1501-2500 g). In the

suburban community, there was no increased risk for attention problems associated with LBW. Psychiatric outcomes of LBW did not vary across ages of assessments.

Conclusions: Effects of LBW on psychiatric disturbance appear to be stable through the period of school attendance. The differential effect of LBW on attention problems between the 2 communities suggests the possibility of interplay between prenatal adversity and social environment.

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J Clin Exp Neuropsychol. 2008;30:749-59.

Working memory in school-aged children with attention-deficit/hyperactivity disorder combined type: Are deficits modality specific and are they independent of impaired inhibitory control?

Brocki KC, Randall KD, Bohlin G, et al.

This study examines differences between children with attention-deficit/ hyperactivity disorder combined type (ADHD-C) and normal controls on verbal and visuospatial working-memory (WM) tasks. The extent to which WM deficits in children with ADHD-C are independent of impaired inhibitory control was also examined. Two groups of 7- to 12-year-old boys participated in this study. The first group included 31 boys diagnosed with ADHD-C, and the second group included 34 boys without ADHD. Various verbal and visuospatial WM tasks and two inhibitory control tasks-prepotent response inhibition and interference control-were used. Overall, our results suggest impaired verbal and visuospatial WM processes in children with ADHD-C, as well as a lower level of performance on prepotent response inhibition. WM deficits in ADHD have previously been suggested to be particularly salient in the spatial domain; our results instead showed the largest effect for a verbal WM task thought to put heavy load on the executive or attentional control component of the WM system. An interpretation of this finding is that it is variation in terms of difficulty level or load on the executive WM processes, rather than variation in modality (verbal versus visuospatial), that is important in demonstrating WM deficits in ADHD-C. Finally, findings from logistic regression analyses showed that deficits in WM and inhibitory control seem to be semi-independent in children with ADHD-C, at least with regard to the elementary school age.

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Am J Med Genet Part B Neuropsychiatr Genet. 2008;147:957-63.

Possible association of the alpha-2A-adrenergic receptor gene with response time variability in attention deficit hyperactivity disorder.

Cho SC, Kim JW, Kim BN, et al.

Previous studies have demonstrated that the MspI and DraI polymorphisms at the alpha-2A-adrenergic receptor gene (ADRA2A) are associated with ADHD. However, few studies have been designed to ascertain the association between the ADRA2A genotypes and the performance on neurocognitive measures in ADHD. The aims of this study were to examine the association of the ADRA2A MspI and DraI polymorphisms with ADHD in Korean subjects, and to determine the relationship between the genotypes of these two polymorphisms and the candidate endophenotypes, as measured by the continuous performance test (CPT). In a case-control study, we assessed 186 ADHD probands and 150 normal controls. One hundred eight trios were studied in a family based association analysis. The transmission disequilibrium test (TDT) analysis showed preferential transmission of the C allele of the DraI polymorphism ($\chi^2 = 5.88$, $P = 0.015$). In the haplotype analyses, a trend of over-transmission of haplotype C/C was observed ($\chi^2 = 3.80$, $P = 0.051$). The homozygous subjects for the C allele (C/C genotype) at the DraI polymorphism showed a trend toward a higher mean T-score with respect to the response time variability profiles of the CPT than did those with the other genotypes (C/T + T/T genotypes; $P = 0.042$). The homozygous subjects for the G allele (G/G genotype) at the MspI polymorphism showed a tendency to have a lower mean T-score with respect to the response time variability profiles of the CPT ($P = 0.068$). The results of this study provide important evidence for the involvement of the ADRA2A MspI and DraI polymorphisms in the etiology of ADHD in Korean subjects. In addition, our results provide evidence for the possible role of these two polymorphisms in ADHD symptom expression, such as increased response time variability.

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J Abnorm Child Psychol. 2008 Oct;36:1057-68.

Do theory of mind and executive function deficits underlie the adverse outcomes associated with profound early deprivation?: Findings from the English and Romanian adoptees study.

Colvert E, Rutter M, Kreppner J, et al.

Theory of Mind (ToM) and Executive Function (EF) have been associated with autism and with attention-deficit hyperactivity disorder (ADHD), and hence might play a role in similar syndromes found following profound early institutional deprivation. In order to examine this possibility the current study included a group of 165 Romanian adoptees, of whom 144 were adopted into the UK from deprived institutional settings before 43 months of age, and a group of 52 within-UK adoptees, all adopted before 6 months of age. Both groups were assessed at 6 and 11 years. The Strange Stories task was used to assess ToM and the Stroop task was used to assess EF, both at age 11. The Romanian adoptees displayed deficits in both ToM and EF compared with the within-UK adoptee group. The degree of deficit was greater for children who had experienced more than 6 months of institutional deprivation. Deficits in both domains (ToM and EF) were associated with each of the three apparently deprivation-specific problems, namely quasi-autism, disinhibited attachment and inattention/overactivity. Statistical analyses indicated a mediating role for both ToM and EF with respect to quasi-autism; possibly a partial mediating role for EF with respect to inattention/overactivity; and probably no mediating role for either ToM or EF in the case of disinhibited attachment. In conclusion, there is evidence for a possible mediating role for ToM and EF in the development of some apparently deprivation-specific difficulties in institution-reared Romanian adoptees, but neither accounts for the overall pattern of deprivation-related difficulties.

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J Bras Psiquiatr. 2008;57:139-41.

ADHD: The impact when not diagnosed.

De Souza I, Mattos P, Pina C, et al.

ADHD is a highly prevalent disorder in childhood with social, academic and familial difficulties when not diagnosed and treated correctly. The aim of this case report is to demonstrate the impairment of ADHD among generations of the same family.

J Intellect Disabil Res. 2008;52:950-65.

The usefulness of Conners' Rating Scales-Revised in screening for Attention Deficit Hyperactivity Disorder in children with intellectual disabilities and borderline intelligence.

Deb S, Dhaliwal AJ, Roy M.

Background: Symptoms of Attention Deficit Hyperactivity Disorder (ADHD) are believed to be common in children with intellectual disabilities (ID). Conners' Rating Scales are widely used for screening ADHD among children who do not have ID, but little is known about their usefulness among children with ID.

Aims: To find cut-off scores for the Conners' Parent Rating Scales-Revised (CPRS-R) and the Conners' Teacher Rating Scale-Revised (CTRS-R) that will give optimum levels of sensitivity and specificity for screening for ADHD among children with ID and borderline intelligence.

Method: Receiver operating characteristic analysis was used to compare a clinical diagnosis of ADHD according to the Diagnostic and Statistical Manual 4th revision-Text Review criteria with scores according to the CPRS-R and the CTRS-R.

Results: Among children with ID, a CPRS-R total score of 42 provided a sensitivity of 0.9 and a specificity of 0.67 with an area under the curve of 0.84. Similarly, a CTRS-R total score of 40 provided a sensitivity of 0.69 and a specificity of 0.67 with an area under the curve of 0.71. There was poor concordance between the CPRS-R and the CTRS-R total scores (Intraclass Correlation; ICC=0.17). There were statistically significant differences in the total score of the CPRS-R and most of its sub-scores between children with ID with and without ADHD. The CTRS-R total score and its sub-scores did not show any statistically significant difference between two groups. Factor analysis showed three clinically distinct factors for both the CPRS-R and the CTRS-R items, although the CPRS-R factors were better and had less item overlap than the CTRS-R factors.

Conclusions: The CPRS-R scores may distinguish between children with ID with and without ADHD but not the CTRS-R scores. Many items in the CPRS-R and the CTRS-R are not applicable to children with severe and profound ID who do not have speech. The CPRS-R and the CTRS-R scores did not correlate with each

ther. There is a need to develop an ADHD screening instrument specifically for children with ID.
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Biol Psychiatry. 2008 Oct;64:636-39.

The effects of methylphenidate on decision making in attention-deficit/hyperactivity disorder.

DeVito EE, Blackwell AD, Kent L, et al.

Background: Children with attention-deficit/hyperactivity disorder (ADHD) frequently display poor judgment and risk taking in their everyday behavior, but there are little empirical data on decision-making cognition in this disorder. The objectives of the study were to assess the effects of stimulant medication on decision making in ADHD and compare performance on the Cambridge Gamble Task between boys with and without ADHD.

Methods: Twenty-one boys (aged 7-13) diagnosed with ADHD underwent a double-blind, placebo-controlled trial of methylphenidate (.5 mg/kg) during which they performed the Cambridge Gamble Task (CGT). A healthy age-matched control group was tested on two occasions off drug.

Results: The ADHD group bet more conservatively on the methylphenidate session than on the placebo session. In comparison with healthy control subjects, the ADHD group made more poor decisions, placed their bets more impulsively, and adjusted their bets less according to the chances of winning. Poor decision making was correlated with parent-reported symptoms and disruptive behavior in the ADHD group.

Conclusions: Methylphenidate reduced risk-prone betting behavior on the CGT. Compared with control subjects, children with ADHD display a number of decision-making deficits on the task, and the measure of rational decision making may serve as an ecologically valid neuropsychological marker of impairment.
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Biol Psychiatry. 2008 Oct;64:607-14.

Decomposing intra-subject variability in children with attention-deficit/hyperactivity disorder.

Di Martino A, Ghaffari M, Curchack J, et al.

Background: Increased intra-subject response time standard deviations (RT-SD) discriminate children with attention-deficit/hyperactivity disorder (ADHD) from healthy control subjects. The RT-SD is averaged over time; thus it does not provide information about the temporal structure of RT variability. We previously hypothesized that such increased variability might be related to slow spontaneous fluctuations in brain activity occurring with periods between 15 sec and 40 sec. Here, we investigated whether these slow RT fluctuations add unique differentiating information beyond the global increase in RT-SD.

Methods: We recorded RT at 3-sec intervals for 15 min during an Eriksen flanker task for 29 children with ADHD and 26 age-matched typically developing control subjects (TDC) (mean ages 12.5 ± 2.4 and 11.6 ± 2.5 ; 26 and 12 boys, respectively). The primary outcome was the magnitude of the spectral component in the frequency range between .027 and .073 Hz measured with continuous Morlet wavelet transform.

Results: The magnitude of the low-frequency fluctuation was greater for children with ADHD compared with TDC ($p=.02$, $d=.69$). After modeling ADHD diagnosis as a function of RT-SD, adding this specific frequency range significantly improved the model fit ($p=.03$; odds ratio=2.58).

Conclusions: Fluctuations in low-frequency RT variability predict the diagnosis of ADHD beyond the effect associated with global differences in variability. Future studies will examine whether such spectrally specific fluctuations in behavioral responses are linked to intrinsic regional cerebral hemodynamic oscillations that occur at similar frequencies.

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J Neural Transm. 2008;115:1445-56.

Slow cortical potential neurofeedback in attention deficit hyperactivity disorder: Is there neurophysiological evidence for specific effects?

Doehnert M, Brandeis D, Straub M, et al.

This study compared changes in quantitative EEG (QEEG) and CNV (contingent negative variation) of children suffering from ADHD treated by SCP (slow cortical potential) neurofeedback (NF) with the effects of group therapy (GT) to separate specific from non-specific neurophysiological effects of NF. Twenty-six children (age: 11.1 (plus or minus) 1.15 years) diagnosed as having ADHD were assigned to NF (N = 14) or GT (N = 12) training groups. QEEG measures at rest, CNV and behavioral ratings were acquired before and after the trainings and statistically analyzed. For children with ADHD-combined type in the NF group, treatment effects indicated a tendency toward improvement of selected QEEG markers. We could not find the expected improvement of CNV, but CNV reduction was less pronounced in good NF performers. QEEG changes were associated with some behavioral scales. Analyses of subgroups suggested specific influences of SCP training on brain functions. To conclude, SCP neurofeedback improves only selected attentional brain functions as measurable with QEEG at rest or CNV mapping. Effects of neurofeedback including the advantage of NF over GT seem mediated by both specific and non-specific factors.

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J Child Adolesc Psychopharmacol. 2008;18:365-71.

Medication effects on symptoms of attention-deficit/hyperactivity disorder in children with fetal alcohol spectrum disorder.

Doig J, McLennan JD, Gibbard WB.

Attention-deficit/hyperactivity disorder (ADHD) may be the most common mental health disorder in children with fetal alcohol spectrum disorders (FASD). Despite this, little information is available regarding the effectiveness of ADHD treatment in this population. This study, conducted within a clinical service, aimed to assess the impact of medication on symptoms of ADHD in children with FASD by determining (a) the extent of change in ADHD symptoms with medication, and (b) whether differences in improvement are seen between symptom domains. Data were extracted from the medical records of 27 children with FASD who had been referred to an ADHD medication service at the Alberta Children's Hospital in Canada. Participants were primarily male and ranged in age from 5 years 6 months to 14 years 5 months. Teacher MTA-SNAP-IV scores were the primary outcome measure. Baseline, best, and change scores across three symptom domains (inattention, hyperactivity/impulsivity, and opposition/defiance) were determined. A total of 41 medication trials was conducted. More children obtained normalized best scores for hyperactivity/impulsivity (n = 18) and opposition/defiance (n = 19) than for inattention (n = 9) across medication trials. These findings suggest that inattention may be less responsive to ADHD medication. Replication in larger samples with a placebo-controlled design is required.

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J Abnorm Psychol. 2008;117:591-605.

Cognitive Inhibition and Working Memory in Attention-Deficit/Hyperactivity Disorder.

Engelhardt PE, Nigg JT, Carr LA, et al.

Studies of cognitive control in attention-deficit/hyperactivity disorder (ADHD) have emphasized the ability to suppress motor responses (i.e., behavioral inhibition) rather than the ability to actively suppress prepotent mental representations (i.e., cognitive inhibition). Further, working memory deficits are suspected in ADHD, yet their distinction from cognitive inhibition is unclear. Two hundred and eighty-eight adolescent and adult participants, 115 of whom met criteria for ADHD and 173 of whom were for non-ADHD comparison, completed a sentence processing task that required the suppression of an incorrect interpretation and a working memory task. The results failed to support cognitive inhibition problems in ADHD. Moreover, the ability to reanalyze sentences with a temporary misinterpretation was at least partially related to working memory performance. The results challenge a unitary inhibition problem in ADHD and suggest inhibition problems do not extend to cognitive suppression in this age range.

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J Child Adolesc Psychopharmacol. 2008;18:347-54.

Aripiprazole in children with attention-deficit/hyperactivity disorder.

Findling RL, Short EJ, Leskovec T, et al.

Objective: To examine the effectiveness and cognitive effects of aripiprazole (APZ) in children with a primary diagnosis of attention-deficit/hyperactivity disorder (ADHD).

Methods: Youths, ages 8-12 years, with a diagnosis of ADHD combined-type or ADHD predominantly inattentive-type were enrolled into a 6-week, open-label pilot trial. Outcome measures included the ADHD Rating Scale-IV (ARS-IV), Clinical Global Impressions Scale (CGI), and Children's Global Assessment Scale (CGAS). The Conners' Continuous Performance Test II, Reading and Math Fluency subscales of the Woodcock-Johnson III Tests of Achievement, and the Stroop Color and Word Test were administered at baseline and end of study.

Results: Fourteen (9 males and 5 females) youths were diagnosed with ADHD-combined type, while 9 (5 males and 4 females) were diagnosed with ADHD-inattentive type. At a mean dose of 6.7 mg/day, end of study results showed overall significant improvement from baseline on ADHD and functional outcome measures. No significant differences in baseline performance at end of study were found on the cognitive measures. The most frequently reported adverse events were sedation (n = 18; 78.3%) and headache (n = 11; 47.8%).

Conclusions: Although this was a brief pilot study with a small sample size, in this cohort, APZ led to clinical benefit in reducing ADHD symptoms and improving overall functioning. Of note, cognitive functioning did not appear to be negatively impacted by APZ treatment.

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Arq Neuro-Psiquiatr. 2008;66:462-67.

Epileptiform abnormalities and quantitative EEG in children with attention-deficit/hyperactivity disorder.

Fonseca LC, Tedrus GMAS, De Moraes C, et al.

There is much controversy about the importance of the electroencephalogram (EEG) in assessing the attention-deficit/hyperactivity disorder (ADHD). The objective of this study was to assess the use of EEG and quantitative EEG (qEEG) in ADHD children. Thirty ADHD children and 30 sex- and age-matched controls with no neurological or psychiatric problems were studied. The EEG was recorded from 15 electrode sites during an eyes-closed resting condition. Epileptiform activity was assessed, as were the absolute and relative powers in the classical bands after application of the Fast Fourier transform. Epileptiform activity was found in 3 (10%) ADHD children. As compared to the controls, the ADHD group showed significantly greater absolute delta and theta powers in a diffuse way, and also greater absolute beta power and smaller relative alpha 1 and beta powers at some electrodes. A logistic multiple regression model, allowed for 83.3% sensibility and specificity in diagnosing ADHD.

An Pediatr. 2008;69:244-50.

Attention deficit and hyperactivity disorder, a current problem.

Garcia Garcia MD, Prieto Tato LM, Santos Borbujo J, et al.

Introduction: Attention deficit disorder and hyperactivity (ADDH), is a condition that affects the normal development of children. The symptoms include difficulty of controlling physical activity, inattention and learning disorders. The ADDH must be diagnosed in accordance with the clinical findings defined in the DSM IV.

Objective: To describe the epidemiology and clinical characteristics of children diagnosed with ADDH in our hospital.

Material and methods: Biannual observational study. Variables evaluated were: age, sex, personal and family medical history, symptoms, therapy and treatment response.

Results: There 83 participants (87% Male and 13% Female), of which 32.5% were diagnosed during the study. Ages ranged from 3-8 years (84%). There was a family history related to ADDH in 38% of patients, and personal history of prematurity, acute foetal distress, small for gestational age, convulsions were reported. Association of hyperactivity and attention deficit was found in 65% of participants. Other related symptoms were cognitive disorder (62%), language disabilities (41%) and motor disorders (35%). Treatment was on-going in 65% of the patients, 27.7% of them having adverse effect. Evolution with therapy was favourable in 61%.

Conclusions: These findings suggest that ADHD is one of the most common childhood psychiatric disorders, mainly affecting boys. There is usually a family history. Failure in school was one of the principal conditions. Association between attention deficit and hyperactivity, mainly hyperactivity, is the most common presentation. Other disorders such as motor and language disabilities are also common in these patients. Methylphenidate showed favourable outcomes in 61% of the patients studied.

Boll Lega Ital Epilessia. 2008;:193-96.

Hyperactivity and attention evaluation in a general epilepsy children group in treatment with topiramate monotherapy.

Germano M, Centra S.

Hyperactivity and attention deficit may be side effects of topiramate (TPM) treatment. We revealed these side effects in 21% (3/14) of a small group of patients with Generalized Epilepsy treated with TPM monotherapy. The control was obtained with a food integration of omega-3. It is relevant that patients showed these side effects either beside allergic phenomenon or familiar history of allergy or different kinds of side effects.

Neuropsychologia. 2008;46:3030-41.

Intra-individual variability in ADHD, autism spectrum disorders and Tourette's syndrome.

Geurts HM, Grasman RPPP, Verte S, et al.

The potential for response variability to serve as an endophenotype for attention deficit hyperactivity disorders (ADHD) rests, in part, upon the development of reliable and valid methods to decompose variability. This study investigated the specificity of intra-individual variability (IIV) in 53 children with ADHD by comparing them with 25 children with high functioning autism (HFA), 32 children with autism spectrum disorders (ASD), who also were comorbid for ADHD (ASD + ADHD), 21 children with Tourette's syndrome (TS), and 85 typically developing controls (TD). In order to decompose the variability of the reaction times, we applied three distinct techniques: ex-Gaussian modeling, intra-individual variability analysis, and spectral analysis. Our data revealed that children with HFA and children with ASD + ADHD exhibited substantial IIV compared with ADHD and TD children. We argue that: (1) all three methods lead to a single consistent conclusion; (2) careful documentation of the analytic steps used in spectral analysis is mandatory for comparison between studies; (3) the presence of comorbidities may constitute an important factor in the observed response variability in previous studies of ADHD.

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Sleep Breathing. 2008;12:375-80.

ADHD, bruxism and psychiatric disorders: Does bruxism increase the chance of a comorbid psychiatric disorder in children with ADHD and their parents?

Ghanizadeh A.

There is an association between bruxism and ADHD. No published data on psychiatric comorbidities in attention-deficit/hyperactivity disorder (ADHD) children with bruxism were found. There is no satisfying treatment method for children with bruxism. If we understand its comorbidities well, a better treatment method could come out. This study was conducted to compare the frequency of comorbid psychiatric disorders in the parents and their ADHD children with and without teeth grinding. It was hypothesized that there is no association between bruxism and prevalence of comorbid psychiatric disorders in children with ADHD and their parental psychopathology. Eighty-nine ADHD children without teeth grinding were compared with 32 ADHD children with teeth grinding. Their parental psychiatric disorders were also compared. Structured interviews were used to diagnose comorbid psychiatric disorders. The demographic characteristics of the children and their parents were not different between the groups. The only psychiatric disorder in children, which was associated with the groups was oppositional defiant disorder. The rate of conduct disorder, tic disorder, major depressive disorder, separation anxiety disorder, generalized anxiety disorder, enuresis, and obsessive compulsive disorder were not different between the two groups of children. The rate of major depression was more in the mothers of children with teeth grinding than those without such children. These findings were not reported before. ADHD children with teeth grinding have a high prevalence

of oppositional defiant disorder. Lack of association between anxiety disorder and presence of teeth grinding might not support the idea that anxiety is associated with teeth grinding. The association of ODD and teeth grinding might be a clue about etiology of bruxism. Perhaps, this clue can probably lead to the development of a more satisfying treatment. With consideration of this clue, further studies should survey if there is any association between ODD and sleep micro-arousals.
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Eur Child Adolesc Psychiatry. 2008;17:352-64.

What single reports from children and parents aggregate to attention deficit-hyperactivity disorder and oppositional defiant disorder diagnoses in epidemiological studies.

Granero R, Ezpeleta L, Domenech JM, et al.

Objective: To analyze information on attention deficit-hyperactivity disorder (ADHD)-oppositional defiant disorder (ODD) and its consequences, provided separately or in combination by children and their parents in a longitudinal prospective study of 9-15 year-old children from the general population.

Method: Cross-sectional and longitudinal epidemiological indexes were compared for single and multiple reports. We evaluated which informant is required for the identification of each DSM-IV criterion. Logistic regressions determined which features were related with the reporting of the "absence" of symptoms.

Results: Both informants were required in order to obtain complete psychopathological profiles. Single reports provide infra-estimated prevalences (between 8.8 and 22.9% of ADHD and between 1.7 and 7.6% of ODD), risks (around 3% for ADHD and 2% for ODD) and comorbidities. Psychological and functional measures analyzed in the study were relatively similar for cases presenting ADHD/ODD diagnosis, regardless of the diagnostic algorithm (based on single or combined reports); however, these clinical profiles were different to those obtained for non-diagnosed children. The main predictors of not reporting the presence of psychopathology were: large families (OR between 2 and 2.5), children that are conflictive at school (OR ranging between 1.3 and 4.3) or those with poor mental health (OR between 1.1 and 1.6).

Conclusions: These results may provide guidance for obtaining accurate diagnostic information, properly identifying children with mental health needs and planning the required preventive and corrective measures.
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Am J Med Genet Part B Neuropsychiatr Genet. 2008;147:927-37.

Absence of the 7-repeat variant of the DRD4 VNTR is associated with drifting sustained attention in children with ADHD but not in controls.

Johnson KA, Kelly SP, Robertson IH, et al .

Many genetic studies have demonstrated an association between the 7-repeat (7r) allele of a 48-base pair variable number of tandem repeats (VNTR) in exon 3 of the DRD4 gene and the phenotype of attention deficit hyperactivity disorder (ADHD). Previous studies have shown inconsistent associations between the 7r allele and neurocognitive performance in children with ADHD. We investigated the performance of 128 children with and without ADHD on the Fixed and Random versions of the Sustained Attention to Response Task (SART). We employed time-series analyses of reaction-time data to allow a fine-grained analysis of reaction time variability, a candidate endophenotype for ADHD. Children were grouped into either the 7r-present group (possessing at least one copy of the 7r allele) or the 7r-absent group. The ADHD group made significantly more commission errors and was significantly more variable in RT in terms of fast moment-to-moment variability than the control group, but no effect of genotype was found on these measures. Children with ADHD without the 7r allele made significantly more omission errors, were significantly more variable in the slow frequency domain and showed less sensitivity to the signal (d') than those children with ADHD the 7r and control children with or without the 7r. These results highlight the utility of time-series analyses of reaction time data for delineating the neuropsychological deficits associated with ADHD and the DRD4 VNTR. Absence of the 7-repeat allele in children with ADHD is associated with a neurocognitive profile of drifting sustained attention that gives rise to variable and inconsistent performance.

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BMJ. 2008;337:751-53.

Diagnosis and management of attention-deficit/hyperactivity disorder in children, young people, and adults: Summary of NICE guidance.

Kendall T, Taylor E, Perez A, et al.

J Abnorm Child Psychol. 2008 Oct;36:977-87.

The development of hyperactive-impulsive behaviors during the preschool years: The predictive validity of parental assessments.

Leblanc N, Boivin M, Dionne G, et al.

The objectives of this study were to establish the different developmental trajectories of hyperactive-impulsive behaviors on the basis of both mother and father ratings at 19, 32, 50, and 63 months, and to examine the predictive validity of these trajectories with respect to later hyperactive-impulsive behaviors, as rated by teachers in the first 2 years of school. Hyperactive-impulsive behaviors were assessed in a population-based sample of 1,112 twins (565 boys and 547 girls) at 19, 32, 50, and 63 months of age. The results revealed a differentiated and consistent view of developmental trajectories of hyperactive-impulsive behaviors derived from these repeated assessments, with 7.1% of children seen by mothers (7% for fathers) as displaying high and stable hyperactive-impulsive behaviors. According to mother ratings, children on a high-chronic trajectory were more likely than other children to display hyperactive-impulsive behaviors at 72 and 84 months according to their teachers. Repeated measures over time and father-based trajectories significantly added to the prediction teacher later ratings of hyperactive-impulsive behaviors. These results support the predictive validity of parental assessment of hyperactive-impulsive behaviors during the preschool years and their use to identify children at risk for further evaluation and possible intervention. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract).

Behav Change. 2008;25:109-28.

Engagement and effectiveness of parent management training (incredible years) for solo high-risk mothers: A multiple baseline evaluation.

Lees DG, Ronan KR.

The effectiveness of The Incredible Years parent-training program with a small sample of four high risk solo mothers in a public clinic setting was assessed. All families had a number of risk factors for early drop-out and poor outcomes. Mindful of resource limitations in the public setting, economical strategies were used to enhance attendance rates and engagement. For the outcome evaluation, a multiple baseline across participants design was used. Participants attended a 2-hour group treatment session weekly for twenty weeks, with booster sessions at 2 months and 4 months following treatment. Participants had sons aged between 6 years and 9 years diagnosed with ADHD. Family functioning was assessed from a pretreatment interview schedule, measures of child behaviour and parent and family functioning. Participants also completed program satisfaction and program evaluation measures.

Results showed: (a) all mothers engaged with and finished the program, (b) improvement in family functioning, (c) improvements in some teacher and parent reports of child behaviour, (d) increased parenting confidence, (e) reduced stress and depression levels for most parent participants, and (f) reports of better parent-child relationships. Additionally, participants all reported being highly satisfied with the program. Findings overall support the use of easy to do engagement strategies and the use of the Incredible Years parent-training program as an effective, low cost and early step intervention for families at higher risk in a day-to-day practice setting. The use of this intervention in an overall stepped care approach is considered and discussed.

Brain Res. 2008 Oct;1235:117-32.

Enhanced gamma-band activity in ADHD patients lacks correlation with memory performance found in healthy children.

Lenz D, Krauel K, Schadow J, et al.

Previous electrophysiological as well as imaging research has contributed to the understanding of impairments in attention, executive functions, and memory in patients with attention-deficit/hyperactivity

disorder (ADHD). However, there is a lack of studies investigating ADHD related differences in the gamma range of human electroencephalogram (EEG), although gamma activity is strongly associated with cognitive processes impaired in ADHD patients and is also modulated by dopamine polymorphisms linked with ADHD. To close this gap, the present study compared gamma activity in ADHD children with that of healthy controls and correlated it with memory performance. EEG was recorded from 13 ADHD patients as well as 13 healthy control subjects during the encoding phase of a visual memory paradigm. In a subsequent recognition test, participants had to judge pictures as being old or new. Analysis of evoked gamma-band responses (GBRs) during stimulus encoding revealed a strong task-related enhancement for ADHD patients in parieto-occipital areas. Interestingly, this augmentation was not associated with recognition performance, whereas healthy subjects exhibited a strong positive correlation between evoked gamma activity during stimulus encoding and subsequent recognition performance. We interpret this finding as evidence of enhanced excitation levels and unspecific activation of processing resources in ADHD patients. Furthermore, enhanced GBRs in ADHD could also indicate a decrease of neuronal signal-to-noise ratio, partially caused by the genetic variations within the dopaminergic pathway of ADHD patients. The involved genetic polymorphisms have been shown to modulate evoked GBRs, which therefore could be a possible marker of impaired neurotransmission in ADHD.

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Ann Acad Med Singapore. 2008;37:655-61.

Sleep disturbances in Singaporean children with attention deficit hyper activity disorder.

Lim CG, Ooi YP, Fung DSS, et al.

Introduction: Many studies have reported various levels of association between sleep disorders and attention deficit hyperactivity disorder (ADHD). This study aims to investigate sleep disturbances in children with ADHD prior to treatment and during treatment.

Materials and Methods: This study recruited 114 child and adolescent patients diagnosed with ADHD and 60 normal patients. Sleep disturbances are assessed using the parent-rated Child Behaviour Checklist (CBCL) questionnaire. In addition, chart reviews and semi-structured clinical interviews were conducted for 54 patients with ADHD who had been seen at the clinic since 2002 to examine the sleep disturbances they experienced during treatment over a 4-year period.

Results: Compared to the normal subjects, parents of children with ADHD reported that their children slept less. The summation score of the sleep items on the CBCL was also significantly higher in the ADHD group. Girls with ADHD also had more "trouble sleeping". When children with ADHD received treatment with medications, they experienced sleep-related side effects. Out of the 54 children with ADHD, 18.5% experienced sleep disturbance related to medication, with 13.0% reporting daytime somnolence and 5.5% reporting insomnia.

Conclusion: Our study showed that there was an increased frequency of sleep disturbances in children with ADHD prior to treatment with medications. The children in our study appeared to sleep less. A significant proportion also experienced sleep disturbance during treatment with medication, of which daytime somnolence and insomnia were the most commonly reported problems. Future research in this area is needed to further examine the range of sleep disorders in ADHD children locally.

Psychiatry Res. 2008;160:237-46.

Lifetime criminality among boys with attention deficit hyperactivity disorder: A prospective follow-up study into adulthood using official arrest records.

Mannuzza S, Klein RG, Moulton III JL.

This study investigates the relationship between childhood attention deficit hyperactivity disorder (ADHD) and later criminality. White boys (n = 207, ages 6-12) with ADHD, free of conduct disorder, were assessed at ages 18 and 25 by clinicians who were blind to childhood status. A non-ADHD group served as comparisons. Lifetime arrest records were obtained when subjects were 38 years old for subjects who resided in New York State throughout the follow-up interval (93 probands, 93 comparisons). Significantly more ADHD probands than comparisons had been arrested (47% vs. 24%), convicted (42% vs. 14%), and incarcerated (15% vs. 1%). Rates of felonies and aggressive offenses also were significantly higher among probands. Importantly, the development of an antisocial or substance use disorder in adolescence completely explained the increased risk for subsequent criminality. Results suggest that even in the absence of comorbid conduct

disorder in childhood, ADHD increases the risk for developing antisocial and substance use disorders in adolescence, which, in turn, increases the risk for criminal behavior in adolescence and adulthood. (copyright) 2007 Elsevier Ireland Ltd. All rights reserved.

Rev Neurol. 2008;47:225-30.

Neuropsychological assessment of memory in attention deficit hyperactivity disorder: the role of executive functions.

Martin-Gonzalez R, Gonzalez-Perez PA, Izquierdo-Hernandez M, et al.

Introduction. There is an important agreement on the consideration of attention deficit hyperactivity disorder (ADHD) as a condition characterized by neurodevelopmental dysfunction of fronto-striatal dopaminergic and noradrenergic circuits with resultant executive deficits in cognitive functioning.

Aim. To assess the existence of memory deficits in children with ADHD associated with a poor performance executive.

Subjects and methods. We assess 14 children diagnosed with ADHD combined type and 14 controls matched on intellectual coefficient, age and level of schooling, in a neuropsychological evaluation protocol designed to assess executive functions and memory skills using Auditory Verbal Learning Test, Memory for Stories Test -Test of Memory and Learning (TOMAL)-, Complex Figure Test, Visual Selective Reminding Test (TOMAL), Tower of Hanoi, Memory Phrases Test (Siegel and Ryan), Digit Span (Wechsler Intelligence Scale for Children-Revised) and Tapping Test (Wechsler Memory Scale III).

Results. The ADHD group showed deficits in the learning and free recall of verbal material, in procedural and working memory. No group differences were observed in the visual memory tasks.

Conclusions. The results are analyzed in terms of difficulty in coding strategies, storage and search of information previously stored in the group with ADHD, at least for the kind of verbal information. These difficulties are associated with deficits in executive functioning.

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Neuropsychiatr Dis Treat. 2008;4:701-05.

A preliminary report of the dopamine receptor D4 and the dopamine transporter 1 gene polymorphism and its association with attention deficit hyperactivity disorder.

Niederhofer H, Menzel F, Gobel K, et al.

Attention deficit hyperactivity disorder (ADHD) is one of the most prevalent childhood-onset psychiatric syndromes affecting 5%-10% of school-age children worldwide. Distortions in the catecholaminergic system seem to be responsible for this condition. Within this system there are several candidate genes, the dopamine receptor D4 (DRD4) and the dopamine transporter 1 (DAT1), with common polymorphism which might be associated with ADHD. We performed a family based association study with 36 trios and 19 parent proband pairs. All diagnoses were confirmed by the "Hypescheme" diagnostic computer program. In this study we did not observe an association of ADHD with DRD4 and DAT1 polymorphism neither by the haplotype relative risk (HRR) method nor by the transmission disequilibrium test (TdT) method. The odds ratio for the DRD4 7-allele was 1.01 and 0.94 for both statistical tests, respectively, and the respective odds ratio for the DAT1 6-allele were 0.91 and 0.88.

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Int J Neuropsychopharmacol. 2008;11:877.

Tricyclic antidepressants (TCA) may improve atomoxetine's efficacy.

Niederhofer H.

J Abnorm Child Psychol. 2008;36:1109-21.

Heterotypic and homotypic continuity: The moderating effects of age and gender.

Reinke WM, Ostrander R.

The longitudinal relationships between depression, anxiety, conduct problems, and inattention were investigated. The present study attempted to overcome the methodological limitations of prior research on childhood co-occurring syndromes by using continuous measures of constructs, controlling for multiple symptoms at baseline, and considering the role of age and gender. Using a community sample of 6-11 year-old children, we found evidence of homotypic and heterotypic continuity in baseline characteristics and their symptoms 5 years later. Notably, inattention and conduct problems were stable over time regardless of age or gender. Additionally, inattention predicted subsequent depression, a relationship unaffected by overlapping psychopathology. With attention problems considered, conduct problems did not predict future depression as others have predicted. Instead, depression in young children was a unique risk factor for subsequent conduct problems. Similarly, most other relationships were moderated by age or gender. The implications for understanding childhood psychopathology and for designing prevention and treatment programs are discussed.

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Arch Clin Neuropsychol. 2008;23:579-91.

Neuropsychological measures probably facilitate heritability research of ADHD.

Rommelse NNJ, Altink ME, Martin NC, et al.

Previous studies, in which cognitive and motor neuropsychological tasks were administered to 816 children from Attention-Deficit/Hyperactivity Disorder (ADHD)- and control-families, showed that various of these measures appeared useful for genetic research in ADHD by forming candidate endophenotypes: underlying, heritable, vulnerability traits that mark an enhanced liability for developing ADHD. The current study extends these findings by showing that six of these ten measures correlate more strongly between siblings than an ADHD composite, suggesting these measures may have a larger heritability than ADHD itself. Significant sibling cross-correlations also suggested that six of ten neuropsychological measures related to similar familial (and heritable) factors as ADHD, suggesting these measures to be useful for ADHD genetic research. An aggregated neuropsychological composite appeared to be the most powerful, since it correlated more strongly between siblings than most individual task measures. These findings suggest heritability research in ADHD will probably be facilitated by including neuropsychological measures.

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Yonsei Med J. 2008;49:573-80.

Maternal depression predicts maternal use of corporal punishment in children with attention-deficit/hyperactivity disorder.

Shin DW, Stein MA.

Purpose: We sought to determine if maternal depression contributed to the use of corporal punishment in children with attention-deficit/ hyperactivity disorder (ADHD).

Patients and Methods: The data were gathered through chart review of clinic-referred children with ADHD and their mothers who were evaluated at a psychiatric clinic located in a large academic medical center in Seoul, Korea. Daily records kept by parents and 13 items from the Physical Assault of the Parent-Child Conflict Tactics Scales (CTSPC) were used to assess corporal punishment. Ninety-one children with ADHD and their mothers were included in this study.

Results: Mothers who used corporal punishment showed significantly higher scores on the Beck Depression Inventory ($t=-2.952$, $df=89$, $p<0.01$) than mothers who did not. Moreover, maternal depression contributed to the use of corporal punishment in ADHD children (Nagelkerke $R^2 = 0.102$, $p < 0.05$).

Conclusion: Maternal depression contributes to the use of corporal punishment with children with ADHD. Assessment and management of the maternal depression should be an important focus of evaluation of children with ADHD.

Prostaglandins Leukotrienes Essent Fatty Acids. 2008;79:47-53.

Lipid profile, fatty acid composition and pro- and anti-oxidant status in pediatric patients with attention-deficit/hyperactivity disorder.

Spahis S, Vanasse M, Belanger SA, et al.

Attention-deficit/hyperactivity disorder (ADHD) is the most prevalent behavioral disorder in children and the pathophysiology remains obscure. In addition to the pharmacotherapy, which is the primary treatment of ADHD, nutritional intervention may have a significant impact on ADHD symptoms. We studied lipid and lipoprotein profiles, fatty acid (FA) composition, and oxidant-antioxidant status in 37 pediatric ADHD patients and 35 healthy control subjects. Our results show that plasma triacylglycerols and phospholipids were lower, whereas free cholesterol, HDL, and apolipoprotein A-I were higher in ADHD patients compared with controls. The proportion of plasma EPA and DHA was higher, but that of oleic and (alpha)-linolenic (ALA) acids was lower. As expected from these findings, the proportions of both total saturates and polyunsaturates fatty acids (PUFA) were higher and lower, respectively, in ADHD patients than in controls, which led to a significant decrease in the PUFAs/saturates ratio. On the other hand, the ratios of eicosatrienoic acid to arachidonic acid and of palmitoleic acid to linoleic acid, established indexes of essential fatty acid (EFA) status remained unchanged revealing that EFA did not affect ADHD patients. Similarly, the activity of delta-6 desaturase, estimated by the ratio of 18:2(n-6)/20:4(n-6), was found unaffected, whereas ALA/EPA was diminished. Lessened lipid peroxidation was noted in ADHD subjects as documented by the diminished values of plasma malondialdehyde accompanied by increased concentrations of (gamma)-tocopherol. In conclusions, significant changes occur in the lipid and lipoprotein profiles, as well as in the oxidant-antioxidant status of ADHD patients, however, the FA distribution does not reflect n-3 FA deficiency. (copyright) 2008 Elsevier Ltd. All rights reserved.

An Pediatr. 2008;69:251-57.

Attention-deficit/hyperactivity disorder and sleep disturbances. Results of an epidemiological study in school children in Gandia, Spain.

Tomas Vila M, Miralles Torres A, Beseler Soto B, et al.

Introduction: The evaluation of comorbidity is an important factor in the treatment of children with attention-deficit/hyperactivity disorder. Sleep disturbances are one of the most common features of this disorder. **Objective:** To find out the frequency of sleep disturbances among children with attention-deficit/hyperactivity disorder.

Material and methods: We used the Spanish version of the Paediatric Sleep Questionnaire, which was given out to a representative sample in Gandia (Spain).

Results: The questionnaire was answered by 887 (68 % of the sample). The sleep disturbances that showed a clear relationship with the three ADHD variables studied are: snoring, enuresis, rhythmic movement disturbances, night awakenings, and bedtime resistance. Sleep-disorder breathing, bruxism, somniloquy, day sleepiness, early awakenings and difficulty falling sleep are associated with only one of the three variables studied.

Conclusions: Our study demonstrates that the population with attention-deficit/hyperactivity disorder has more sleep disturbances. The association with the enuresis is of particular interest due to the possible clinical implications.

J Pediatr. 2008;153:414-19.

Cigarette Smoking Associated with Attention Deficit Hyperactivity Disorder.

Wilens TE, Vitulano M, Upadhyaya H, et al.

Objective: To evaluate the association between attention deficit hyperactivity disorder (ADHD) and severity of physical dependence on nicotine in a controlled study of adolescents and young adults with ADHD.

Study design: In controlled longitudinal family studies of ADHD, we examined self-reports on the modified Fagerstrom Tolerance Questionnaire (mFTQ) for degrees of physical dependence on nicotine.

Results: We obtained mFTQ data from 80 ADHD probands and 86 control probands (mean age, 19.2 years). The smokers with ADHD had significantly higher scores on the mFTQ, indicative of more severe physical dependence on nicotine. Similarly, in current smokers, a positive linear relationship was found between mFTQ score and both inattentive and hyperactive ADHD symptoms. Environmental factors, such as current parental smoking, peer smoking, and living with a smoker, all increased the risk for smoking in those with ADHD compared with controls.

Conclusion: Male and female smokers with ADHD manifest more severe physical dependence on smoking compared with controls. Important environmental factors appear to add to the risk of smoking associated with ADHD.

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Journal of Consulting and Clinical Psychology. 2008 Oct;76:735-44.

Rate and predictors of divorce among parents of youths with ADHD.

Wymbs BT, Pelham WE Jr, Molina BSG, et al.

Numerous studies have asserted the prevalence of marital conflict among families of children with attention-deficit/hyperactivity disorder (ADHD), but evidence is surprisingly less convincing regarding whether parents of youths with ADHD are more at risk for divorce than are parents of children without ADHD. Using survival analyses, the authors compared the rate of marital dissolution between parents of adolescents and young adults with and without ADHD. Results indicated that parents of youths diagnosed with ADHD in childhood ($n = 282$) were more likely to divorce and had a shorter latency to divorce compared with parents of children without ADHD ($n = 206$). Among a subset of those families of youths with ADHD, prospective analyses indicated that maternal and paternal education level; paternal antisocial behavior; and child age, race/ethnicity, and oppositional-defiant/conduct problems each uniquely predicted the timing of divorce between parents of youths with ADHD. These data underscore how parent and child variables likely interact to exacerbate marital discord and, ultimately, dissolution among families of children diagnosed with ADHD. (PsycINFO Database Record (c) 2008 APA, all rights reserved) (from the journal abstract)

J Asthma. 2008;45:545-47.

Attention deficit and hyperactivity symptoms in children with asthma.

Yuksel H, Sogut A, Yilmaz O.

Background. Asthma that is chronic may influence children's behavioral health and quality of life (QoL) negatively.

Objective. To evaluate the frequency of attention deficit and hyperactivity symptoms in children with asthma and to determine if these symptoms are associated with a deterioration of QoL.

Methods. Mothers of 62 children with moderate asthma and those of 38 healthy children aged between 7-12 years were included in the study. Conners' Parent Rating Scale-48 (CPRS), a 48-item multiple-choice questionnaire, was completed by the mothers to identify attention deficit and hyperactivity symptoms in children. The Pediatric Asthma Quality of Life Questionnaire (PAQLQ) was filled in by children to measure QoL.

Results. Mean age was 9.2 (plus or minus) 1.5 years for asthmatic children (37 male, 25 female) and 10.1 (plus or minus) 1.3 years for control group (20 male, 18 female). The two groups were similar regarding age and sex. Attention deficit score in the asthma group was significantly higher than that in the control group ($p = 0.01$). The frequency of hyperactivity was higher in the asthmatic group but the difference between the groups was not significant ($p = 0.36$). Attention deficit and hyperactivity scores of Conners-P were not correlated with PAQLQ scores (regarding total, activity, emotional and symptom domains).

Conclusion. Increased rates of attention deficit symptoms in children with asthma, as reported by mothers, might reflect the negative impact of asthma on neurobehavioral health. Asthmatic children, especially the ones who display attention deficit symptoms, must be considered for further evaluation regarding attention deficit hyperactivity disorder.

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Boll Lega Ital Epilessia. 2008;-:265-66.

Vagus nerve stimulation (VNS): Utility in neuropsychiatric disorders associated with epilepsy.

Zamponi N, Corpaci L, Cesaroni E, et al.

A variety of comorbid psychiatric conditions are frequently identified in children and adolescents with epilepsy, including depression, anxiety, psychosis, and attention-deficit hyperactivity disorder. The vagus nerve stimulator (VNS), approved for use in epilepsy also has been found to have positive psychotropic properties. We report the effects of VNS on psychiatric comorbidity symptoms in 20 children affected by drug-

resistant epilepsy. The best results seem to be on autistic spectrum disorders while mood disorders are less improved.

Biol Psychiatry. 2008 Oct;64:571-76.

Linkage to chromosome 1p36 for attention-deficit/hyperactivity disorder traits in school and home settings.

Zhou K, Asherson P, Sham P, et al.

Background: Limited success has been achieved through previous attention-deficit/hyperactivity disorder (ADHD) linkage scans, which were all designed to map genes underlying the dichotomous phenotype. The International Multi-centre ADHD Genetics (IMAGE) project performed a whole genome linkage scan specifically designed to map ADHD quantitative trait loci (QTL).

Methods: A set of 1094 single selected Caucasian ADHD nuclear families was genotyped on a highly accurate and informative single nucleotide polymorphism (SNP) panel. Two quantitative traits measuring the children's symptoms in home and school settings were collected and standardized according to a population sample of 8000 children to reflect the developmental nature and gender prevalence difference of ADHD. Univariate linkage test was performed on both traits and their mean score.

Results: A significant common linkage locus was found at chromosome 1p36 with a locus-specific heritability of 5.1% and a genomewide empirical $p < .04$. Setting-specific suggestive linkage signals were also found: logarithm of odds (LOD)=2.2 at 9p23 for home trait and LOD=2.6 at 11q21 for school trait.

Conclusions: These results indicate that given large samples with proper phenotypic measures, searching for ADHD genes with a QTL strategy is an important alternative to using the clinical diagnosis. The fact that our linkage region 1p36 overlaps with the dyslexia QTL DYX8 further suggests it is potentially a pleiotropic locus for ADHD and dyslexia.

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