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Serotonin transporter polymorphism moderates the effects of caregiver intrusiveness on ADHD symptoms among institutionalized preschoolers.

**Author(s):** Baptista, Joana; Belsky, Jay; Mesquita, Ana; Soares, Isabel  
**Source:** European Child & Adolescent Psychiatry; Mar 2017; vol. 26 (no. 3); p. 303-313  
**Database:** CINAHL

Predictors of discrepancies between fathers and mothers in rating behaviors of preschool children with and without ADHD.

**Author(s):** Veen-Mulders, Lianne; Nauta, Maaike; Timmerman, Marieke; den Hoofdakker, Barbara; Hoekstra, Pieter  
**Source:** European Child & Adolescent Psychiatry; Mar 2017; vol. 26 (no. 3); p. 365-376  
**Database:** CINAHL

ADHD Symptoms as Risk Factors for Intimate Partner Violence Perpetration and Victimization.

**Author(s):** Wymbs, Brian T.; Dawson, Anne E.; Suhr, Julie A.; Bunford, Nora; Gidycz, Christine A.  
**Source:** Journal of Interpersonal Violence; Mar 2017; vol. 32 (no. 5); p. 659-681  
**Database:** CINAHL

Rapid Naming and Phonemic Awareness in Children With or Without Reading Disabilities and/or ADHD.

**Author(s):** De Groot, Barry J. A.; Van den Bos, Kees P.; Van der Meulen, Bieuwe F.; Minnaert, Alexander E. M. G.  
**Source:** Journal of Learning Disabilities; Mar 2017; vol. 50 (no. 2); p. 168-179  
**Database:** CINAHL

Anomalous subcortical morphology in boys, but not girls, with ADHD compared to typically developing controls and correlates with emotion dysregulation.

**Author(s):** Seymour, Karen E; Tang, Xiaoying; Crocetti, Deana; Mostofsky, Stewart H; Miller, Michael I; Rosch, Keri S  
**Source:** Psychiatry research; Mar 2017; vol. 261 ; p. 20-28  
**Abstract:** There has been limited investigation of volume and shape difference in subcortical structures in children with ADHD and a paucity of examination of the influence of sex on these findings. The objective of this study was to examine morphology (volume and shape) of subcortical structures and their association with emotion dysregulation (ED) in girls and boys with ADHD as compared to their typically-developing (TD) counterparts. Participants included 218 children ages 8-12 years old with and without DSM-IV ADHD.
Structural magnetic resonance images were obtained, and shape analyses were conducted using large deformation diffeomorphic metric mapping (LDDMM). Compared to TD boys, boys with ADHD showed reduced volumes in the bilateral globus pallidus and amygdala. There were no volumetric differences in any structure between ADHD and TD girls. Shape analysis revealed localized compressions within the globus pallidus, putamen and amygdala in ADHD boys relative to TD boys, as well as significant correlations between increased ED and unique subregion expansion in right globus pallidus, putamen, and right amygdala. Our findings suggest a sexually dimorphic pattern of differences in subcortical structures in children with ADHD compared to TD children, and a possible neurobiological mechanism by which boys with ADHD demonstrate increased difficulties with ED.

Database: Medline

Gene-Environment Interactions in ADHD: The Roles of SES and Chaos.

Author(s): Gould, Karen L; Coventry, William L; Olson, Richard K; Byrne, Brian

Source: Journal of abnormal child psychology; Mar 2017

Abstract: Although attention-deficit/hyperactivity disorder (ADHD) is highly heritable, emerging evidence suggests symptoms are associated with interactions between genes and the environment (GxE) during development. This study tested whether heritability of ADHD symptoms is moderated by two environmental factors: socioeconomic status (SES) and chaos (household disorganisation). A population sample of 520 twin pairs (N = 1040, 52.3% female) from 6 to 15 years completed measures of behavior and home environment. Structural equation modelling was then used to test whether environmental factors were associated with a change in the extent to which genes explain variability in ADHD symptoms. Neither chaos nor SES moderated heritability, with consistent contributions from both genes and environment indicated across socioeconomic strata and levels of chaos. This finding contrasts with those of previous research, underlining the need to replicate results in the emerging field of GxE research across different populations and statistical methods. Robust findings may assist in developing targeted interventions for genetically vulnerable individuals.

Database: Medline

The faster internal clock in ADHD is related to lower processing speed: WISC-IV profile analyses and time estimation tasks facilitate the distinction between real ADHD and pseudo-ADHD.

Author(s): Walg, Marco; Hapfelmeier, Gerhard; El-Wahsch, Daniel; Prior, Helmut

Source: European child & adolescent psychiatry; Mar 2017

Abstract: Alterations in temporal processing may represent a primary cause of key symptoms in ADHD. This study is aimed at investigating the nature of time-processing alterations in ADHD and assessing the possible utility of testing time estimation for clinical diagnostics. Retrospective verbal time estimation in the range of several minutes was examined in 50 boys with ADHD and 53 boys with other mental disorders. All participants (age 7-16) attended an outpatient clinic for ADHD diagnostics. The diagnostic assessment included the WISC-IV. Subjects with ADHD made longer and less accurate duration estimates than the clinical control group. The ADHD group showed a specific WISC-IV profile with processing speed deficits. In the ADHD group there was a correlation between processing speed and quality of time estimation that was not observed in the comparison group: higher processing speed indices were related to more accurate duration estimates. The findings provide support for the presence of a faster internal clock in subjects with ADHD and lend further support to the existence of a specific WISC-IV profile in subjects with ADHD. The results show that analyzing WISC-IV profiles and time estimation tasks are useful differential diagnosis tools, particularly when it comes to distinguishing between "real ADHD" and pseudo-ADHD.

Database: Medline

Risk factors for comorbid oppositional defiant disorder in attention-deficit/hyperactivity disorder.

Author(s): Noordermeer, Siri D S; Luman, Marjolein; Weeda, Wouter D; Buitelaar, Jan K; Richards, Jennifer S; Hartman, Catharina A; Hoekstra, Pieter J; Franke, Barbara; Heslenfeld, Dirk J; Oosterlaan, Jaap

Source: European child & adolescent psychiatry; Mar 2017
Abstract: Oppositional defiant disorder (ODD) is highly prevalent in attention-deficit/hyperactivity disorder (ADHD). Individuals with both ADHD and ODD (ADHD + ODD) show a considerably worse prognosis compared with individuals with either ADHD or ODD. Therefore, identification of risk factors for ADHD + ODD is essential and may contribute to the development of (early) preventive interventions. Participants were matched for age, gender, and ADHD-subtype (diagnostic groups), and did not differ in IQ. Predictors included pre- and perinatal risk factors (pregnancy duration, birth weight, maternal smoking during pregnancy), transgenerational factors (parental ADHD; parental warmth and criticism in diagnostic groups), and postnatal risk factors (parental socioeconomic status [SES], adverse life events, deviant peer affiliation). Three models were assessed, investigating risk factors for ADHD-only versus controls (N = 86), ADHD + ODD versus controls (N = 86), and ADHD + ODD versus ADHD-only (N = 90). Adverse life events and parental ADHD were risk factors for both ADHD + ODD and ADHD-only, and more adverse life events were an even stronger risk factor for comorbid ODD compared with ADHD-only. For ADHD + ODD, but not ADHD-only, parental criticism, deviant peer affiliation, and parental SES acted as risk factors. Maternal smoking during pregnancy acted as minor risk factor for ADHD-only, while higher birth weight acted as minor risk factor for ADHD + ODD. No effects of age were present. Findings emphasise the importance of these factors in the development of comorbid ODD. The identified risk factors may prove to be essential in preventive interventions for comorbid ODD in ADHD, highlighting the need for parent-focused interventions to take these factors into account.

Database: Medline

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Attention-Deficit/Hyperactivity Disorder and Phonological Working Memory: Methodological Variability Affects Clinical and Experimental Performance Metrics.

Author(s): Tarle, Stephanie J; Alderson, R Matt; Patros, Connor H G; Lea, Sarah E; Hudec, Kristen L; Arrington, Elaine F

Source: Neuropsychology; Mar 2017

Available in full text at Neuropsychology - from ProQuest

Abstract: OBJECTIVE Despite promising findings in extant research that suggest impaired working memory (WM) serves as a central neurocognitive deficit or candidate endophenotype of attention-deficit/hyperactivity disorder (ADHD), findings from translational research have been relatively underwhelming. This study aimed to explicate previous equivocal findings by systematically examining the effect of methodological variability on WM performance estimates across experimental and clinical WM measures. METHOD Age-matched boys (ages 8-12 years) with (n = 20) and without (n = 20) ADHD completed 1 experimental (phonological) and 2 clinical (digit span, letter-number sequencing) WM measures. RESULTS The use of partial scoring procedures, administration of greater trial numbers, and high central executive demands yielded moderate-to-large between-groups effect sizes. Moreover, the combination of these best-case procedures, compared to worst-case procedures (i.e., absolute scoring, administration of few trials, use of discontinue rules, and low central executive demands), resulted in a 12.5% increase in correct group classification. CONCLUSION Collectively, these findings explain inconsistent ADHD-related WM deficits in previous reports, and highlight the need for revised clinical measures that utilize best-case procedures.

Database: Medline

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An update on the safety of psychostimulants for the treatment of attention-deficit/hyperactivity disorder.

Author(s): Groenman, Annabeth P; Scheren, Lianne J S; Dietrich, Andrea; Hoekstra, Pieter J

Source: Expert opinion on drug safety; Mar 2017; p. 1-10

Abstract: INTRODUCTION Methylphenidate is the first-line pharmacological treatment of attention-deficit/hyperactivity disorder (ADHD). Although methylphenidate has a well-established evidence base for treating ADHD, its long-term benefits are unclear. Areas covered: Physical adverse effects, psychiatric adverse events and brain development Expert opinion: Some physical adverse events have been described (e.g. sleep disturbances, growth reduction, loss of appetite), although most are of transient nature. Psychiatric adverse events seem more related to the diagnosis ADHD itself, and not stimulant treatment. Concluding, short-to-mid-term use (i.e., up to 2 years) stimulants are relatively safe, but much less is known about longer-term efficacy and safety of these drugs.

Database: Medline

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Perception of emotional prosody in adults with attention deficit hyperactivity disorder.

**Author(s):** Kis, B; Guberina, N; Kraemer, M; Niklewski, F; Dziobek, I; Wiltfang, J; Abdel-Hamid, M

**Source:** Acta psychiatrica Scandinavica; Mar 2017

**Abstract:** OBJECTIVE Attention deficit hyperactivity disorder (ADHD) is associated with social conflicts. The purpose of this study was to explore domains of social cognition in adult patients with ADHD. METHODS The assessment of social cognition was based on established neuropsychological tests: the Tübinger Affect Battery (TAB) for prosody and the Cambridge Behaviour Scale (CBS) for empathy. The performance of adults with ADHD (N = 28) was compared with the performance of a control group (N = 29) matched according to basic demographic variables. RESULTS Treatment-naïve adults with ADHD showed deficits in emotional prosody (P = 0.02) and in the ability to empathize (P < 0.2). No gender differences concerning social cognitive skills were detected. CONCLUSIONS ADHD is associated with social cognition impairments involving both emotional prosody and empathy.

**Database:** Medline

Parent-based diagnosis of ADHD is as accurate as a teacher-based diagnosis of ADHD.

**Author(s):** Bied, Adam; Biederman, Joseph; Faraone, Stephen

**Source:** Postgraduate medicine; Mar 2017; p. 1-7

**Abstract:** OBJECTIVE To review the literature evaluating the psychometric properties of parent and teacher informants relative to a gold-standard ADHD diagnosis in pediatric populations. METHOD We included studies that included both a parent and teacher informant, a gold-standard diagnosis, and diagnostic accuracy metrics. Potential confounds were evaluated. We also assessed the 'OR' and the 'AND' rules for combining informant reports. RESULTS Eight articles met inclusion criteria. The diagnostic accuracy for predicting gold standard ADHD diagnoses did not differ between parents and teachers. Sample size, sample type, participant drop-out, participant age, participant gender, geographic area of the study, and date of study publication were assessed as potential confounds. CONCLUSION Parent and teachers both yielded moderate to good diagnostic accuracy for ADHD diagnoses. Parent reports were statistically indistinguishable from those of teachers. The predictive features of the 'OR' and 'AND' rules are useful in evaluating approaches to better integrating information from these informants.

**Database:** Medline

Deficits in inhibitory force control in young adults with ADHD.

**Author(s):** Neely, Kristina A; Wang, Peiyuan; Chennavasin, Amanda P; Samimy, Shaadee; Tucker, Jacqueline; Merida, Andrea; Perez-Edgar, Koraly; Huang-Pollock, Cynthia

**Source:** Neuropsychologia; Mar 2017

**Abstract:** Poor inhibitory control is a well-established cognitive correlate of adults with ADHD. However, the simple reaction time (RT) task used in a majority of studies records performance errors only via the presence or absence of a single key press. This all-or-nothing response makes it impossible to capture subtle differences in underlying processes that shape performance. Subsequently, all-or-nothing tasks may underestimate the prevalence of executive function deficits in ADHD. The current study measured inhibitory control using a standard Go/No-Go RT task and a more sensitive continuous grip force task among adults with (N = 51, 22 female) and without (N = 51, 29 female) ADHD. Compared to adults without ADHD, adults with ADHD made more failed inhibits in the classic Go/No-Go paradigm and produced greater and more variable force during motor inhibition. The amount of force produced on failed inhibits was a stronger predictor of ADHD-related symptoms than the number of commissions in the standard RT task. Adults with ADHD did not differ from those without ADHD on the mean force and variability of force produced in Go trials. These findings suggest that the use of a precise and continuous motor task, such as the force task used here, provides additional information about the nature of inhibitory motor control in adults with ADHD.

**Database:** Medline

Psychopathological, temperamental, and characteristic factors in adults with remaining childhood attention-deficit hyperactivity symptoms.

**Author(s):** Kim, Kyoung Min; Nam, Sojeong; Kim, Soo Yeon; Lee, Soo Min; Choi, Jae-Won; Kang, Taewoong; Kim, Jun Won

**Source:** International journal of psychiatry in clinical practice; Mar 2017; p. 1-6
Abstract: OBJECTIVE To investigate differences in psychopathological, temperamental and characteristic factors between young adults with and without persistent Attention-Deficit Hyperactivity disorder (ADHD) symptoms. METHODS A total of 429 university students were divided into three groups: persistent adult ADHD (n = 53), only childhood ADHD (n = 56) and healthy controls (n = 320). The Korean Adult ADHD Scale, Korean Wender-Utah Rating Scale, Beck Depression Inventory-II, Beck Anxiety Inventory, Barratt Impulsiveness Scale, Korean Young Internet Addiction Scale, and Temperament Character Inventory-Revised (TCI-R; based on Cloninger's seven factor model of temperament and character) were used to evaluate psychopathological factors. RESULTS Participants with persistent adult ADHD symptoms had significantly higher levels of childhood ADHD, depression, anxiety and the Internet addiction symptoms than did the only-childhood ADHD and control groups. The adult ADHD group also had significantly higher tendencies toward novelty seeking, harm avoidance, and self-transcendence, as well as low self-directedness and cooperativeness. CONCLUSIONS Results suggest that persistent ADHD is associated with several unfavourable psychopathological, temperamental and characteristic factors. Therefore, thorough evaluation of these factors for childhood ADHD could help predict prognoses and provide treatment plans for preventing persistent ADHD into adulthood.

Database: Medline

Testing the dual pathway model of ADHD in obesity: a pilot study.

Author(s): Van der Oord, Saskia; Braet, Caroline; Cortese, Samuele; Claes, Laurence

Source: Eating and weight disorders : EWD; Mar 2017

Abstract: INTRODUCTION There may be shared neuropsychological dysfunctions in ADHD and obesity. This study tested a neuropsychological model of ADHD (reward/executive dysfunctioning) in individuals with obesity. Furthermore, the association between co-morbid binge eating and reward/executive dysfunction was explored. METHODS Reward/executive dysfunctioning was assessed using both neuropsychological measures and questionnaires in individuals (aged 17-68) with obesity (N = 39; mean BMI = 39.70) and normal weight (N = 25; mean BMI = 22.94). RESULTS No significant differences emerged between individuals with and without obesity on the outcome measures. However, individuals with obesity and binge eating showed significantly more self-reported delay discounting and inattention than those individuals with obesity but without binge eating. When controlling for inattention, this difference in delay discounting was no longer significant. DISCUSSION Not obesity alone but obesity with binge eating was specifically associated with a mechanism often reported in ADHD, namely delay discounting. However, this effect may be more driven by inattention.

Database: Medline

Mothers’ parenting stress is associated with salivary cortisol profiles in children with Attention Deficit Hyperactivity Disorder.

Author(s): Korpa, Terpsichori; Pervanidou, Panagiota; Angeli, Eleni; Apostolakou, Filia; Papanikolaou, Katerina; Papassotiriou, Ioannis; Chrousoy, George P; Kolaitis, Gerasimos

Source: Stress (Amsterdam, Netherlands); Mar 2017 ; p. 1-37

Abstract: The aim of this study was to explore the relation between mothers’ parenting stress and the functioning of the hypothalamic-pituitary-adrenal axis (HPAA), as expressed by daily salivary cortisol concentrations, in their children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). Seventy-five children aged 6-11 years diagnosed with ADHD predominant Hyperactive-Impulsive/Combined (ADHD-HI/C, N = 49) and Inattentive symptoms (ADHD-I, N = 26) and 45 healthy peers and their mothers participated in the study. Mothers completed measures assessing their children’s ADHD status, perceived parenting stress (Parenting Stress Index - Short Form, PSI-SF), mothers’ symptoms of psychopathology, social support and socio-economic status. Children’s salivary cortisol samples were collected at six different time points on a single day. Mothers of children with ADHD-HI/C reported higher levels of parenting stress than mothers of children with ADHD-I and controls. All PSI-SF subscales showed significant associations with children’s Cortisol Awakening Response (CAR) in both ADHD groups, with the exception of the Parental Distress subscale in the ADHD-I group. In both ADHD groups, the Parent-Child Dysfunctional Interaction subscale, the Difficult Child subscale and the PSI total score were significantly associated with children’s CAR. An interrelation is revealed between mothers’ high levels of parenting stress and HPAA functioning in children with ADHD. In this population, CAR has been identified as a sensitive peripheral measure of HPAA functioning in children.

Database: Medline
ADHD and enuresis: a study about effectiveness of treatment with methylphenidate or desmopressin in a pediatric population.

Author(s): Ferrara, Pietro; Sannicandro, Valeria; Ianniello, Francesca; Quattroccoli, Enrica; Sbordone, Annamaria; Petitti, Tommasangelo; Mariotti, Paolo

Source: Minerva pediatrica; Mar 2017

Abstract: BACKGROUND To evaluate the effectiveness of treatment with methylphenidate or desmopressin (dDAVP) in patients with comorbid ADHD and enuresis. METHODS We enrolled 103 patients affected by ADHD and 125 patients with monosymptomatic nocturnal enuresis (NE). Data were collected between January 2014 and December 2015. The study was carried out in compliance with the Helsinki Declaration. RESULTS About children with ADHD, 9/103 (8.7%) were also suffering from NE; of those 8/9 followed treatment with methylphenidate and cognitive behavioral therapy. After 3 months 2/8 (25%, CI95%: 8%-65%) showed improvements, remaining 75% has been increased dosage of methylphenidate. After 6 months a response was achieved in 6/8 (75%%, CI95%: 35%-96%) children and 1/8 was lost to follow-up. Furthermore the drug withdrawal showed a recurrence of symptoms both ADHD and NE in 1/7 (14.3%%, CI95%: 0.3%-57%) vs 6/7 (85.7%%, CI95%: 42%-99%) that not presented recurrences. About children with NE enrolled at Campus Bio-Medico University it was found that 4/125 (3.8%) children were also suffering from ADHD; 3/4 (75%) treated with dDAVP and motivational therapy, of those 2/3 (66.7%%, CI95%: 9%-99%) showed no improvements of symptoms vs 1/3 (33.3%%, CI95%: 0.8%-90%) that showed partial response with a reduction of wet-nights. CONCLUSIONS It's important the service of recruitment of patients with NE. In fact considering NE in a Child Neuropsychiatry service where patients belong to a diagnosis of ADHD and NE is an incidental finding, this one is not considered as the addressee of treatment, but the therapy is directed to the neuro-behavioral problem using specific drugs and therapies, which are resolutive in the enuretic disorder.

Database: Medline

Neural Processing of Threat Cues in Young Children With Attention-Deficit/Hyperactivity Symptoms.

Author(s): Flegenheimer, Chaia; Lugo-Candelas, Claudia; Harvey, Elizabeth; McDermott, Jennifer M


Abstract: A growing literature indicates that attention deficit/hyperactivity disorder (ADHD) involves difficulty processing threat-related emotion faces. This deficit is especially important to understand in young children, as threat emotion processing is related to the development of social skills and related behavioral regulation. Therefore, the current study aimed to better understand the neural basis of this processing in young children with ADHD symptoms. Forty-seven children between 4 and 7 years of age were included in the analysis, 28 typical developing and 19 with clinically significant levels of ADHD hyperactive/impulsive symptoms. Participants completed a passive affective face-viewing task. Event-related potentials were assessed for each emotion, and parental report of child behavior and emotion regulation abilities was assessed. Children with ADHD symptoms showed altered N170 modulation in response to specific emotion faces, such that the N170 was less negative in response to fearful compared to neutral faces, whereas typically developing children showed the opposite pattern. Groups did not differ in reactivity to anger or non-threat-related emotion faces. The N170 difference in fearful compared to neutral faces correlated with reported behavior, such that less fear reactivity predicted fewer prosocial behaviors. Abnormalities in the underlying neural systems for fear processing in young children with ADHD symptoms may play an important role in social and behavioral deficits within this population.

Database: Medline

Further evidence for the role of pregnancy-induced hypertension and other early life influences in the development of ADHD: results from the IDEFICS study.

Author(s): Pohlabeln, Hermann; Rach, Stefan; De Henauw, Stefaan; Eiben, Gabriele; Gwozdz, Wencke; Hadjigeorgiou, Charalampos; Molnár, Dénes; Moreno, Luis A; Russo, Paola; Veldebaum, Toomas; Pigeot, Iris; IDEFICS consortium

Source: European child & adolescent psychiatry; Mar 2017
**Abstract:** The aim of this study is to investigate whether in addition to established early risk factors other, less studied pre-, peri-, and postnatal influences, like gestational hypertension or neonatal respiratory disorders and infections, may increase a child’s risk of developing attention-deficit/hyperactivity disorders (ADHD). In the IDEFICS study more than 18,000 children, aged 2-11.9 years, underwent extensive medical examinations supplemented by parental questionnaires on pregnancy and early childhood. The present analyses are restricted to children whose parents also completed a supplementary medical questionnaire (n = 15,577), including the question whether or not the child was ever diagnosed with ADHD. Multilevel multivariable logistic regression was used to assess the association between early life influences and the risk of ADHD. Our study confirms the well-known association between maternal smoking during pregnancy and a child’s risk of ADHD. In addition, our study showed that children born to mothers younger than 20 years old were 3-4 times more likely to develop ADHD as compared to children born to mothers aged 25 years and older. Moreover, we found that children whose mothers suffered from pregnancy-induced hypertension had an approximately twofold risk of ADHD (OR 1.95; 95% CI 1.09-3.48). This also holds true for infections during the first 4 weeks after birth (OR 2.06; 95% CI 1.05-4.04). In addition, although not statistically significant, we observed a noticeable elevated risk estimate for neonatal respiratory disorders (OR 1.76; 95% CI 0.91-3.41). Hence, we recommend that these less often studied pre-, peri, and postnatal influences should get more attention when considering early indicators or predictors for ADHD in children. However, special study designs such as genetically sensitive designs may be needed to derive causal conclusions.

**Database:** Medline

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**Comparative efficacy and safety of attention-deficit/hyperactivity disorder pharmacotherapies, including guanfacine extended release: a mixed treatment comparison.**

**Author(s):** Joseph, Alain; Ayyagari, Rajeev; Xie, Meng; Cai, Sean; Xie, Jipan; Huss, Michael; Sikirica, Vanja

**Source:** European child & adolescent psychiatry; Mar 2017

**Abstract:** This study compared the clinical efficacy and safety of attention-deficit/hyperactivity disorder (ADHD) pharmacotherapy in children and adolescents 6-17 years of age. A systematic literature review was conducted to identify randomized controlled trials (RCTs) of pharmacologic monotherapies among children and adolescents with ADHD. A Bayesian network meta-analysis was conducted to compare change in symptoms using the ADHD Rating Scale Version IV (ADHD-RS-IV), Clinical Global Impression-Improvement (CGI-I) response, all-cause discontinuation, and adverse event-related discontinuation. Thirty-six RCTs were included in the analysis. The mean (95% credible interval [CrI]) ADHD-RS-IV total score change from baseline (active minus placebo) was -14.98 (-17.14, -12.80) for lisdexamfetamine dimesylate (LDX), -9.33 (-11.63, -7.04) for methylphenidate (MPH) extended release, -8.68 (-10.63, -6.72) for guanfacine extended release (GXR), and -6.88 (-8.22, -5.49) for atomoxetine (ATX); data were unavailable for MPH immediate release. The relative risk (95% CrI) for CGI-I response (active versus placebo) was 2.56 (2.21, 2.91) for LDX, 2.13 (1.70, 2.54) for MPH extended release, 1.94 (1.59, 2.29) for GXR, 1.77 (1.31, 2.26) for ATX, and 1.62 (1.05, 2.17) for MPH immediate release. Among non-stimulant pharmacotherapies, GXR was more effective than ATX when comparing ADHD-RS-IV total score change (with a posterior probability of 93.91%) and CGI-I response (posterior probability 76.13%). This study found that LDX had greater efficacy than GXR, ATX, and MPH immediate release. Among non-stimulant pharmacotherapies, GXR had a high posterior probability of being more efficacious than ATX, although their CrIs overlapped.

**Database:** Medline

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**The effects of GRIN2B and DRD4 gene variants on local functional connectivity in attention-deficit/hyperactivity disorder.**

**Author(s):** Kim, Johanna Inhyang; Yoo, Jae Hyun; Kim, Dohyun; Jeong, Bumseok; Kim, Bung-Nyun

**Source:** Brain imaging and behavior; Mar 2017

**Abstract:** Based on the interplay between dopaminergic and glutamatergic systems, N-Methyl-D-Aspartate (NMDA) receptor genes are thought to be involved in the pathophysiology of ADHD. However, the phenotypical correlates of brain functions associated with NMDA receptor genes and dopamine receptor genes in ADHD are yet to be investigated. We examined the diagnosis, genotype and the diagnosis-genotype interaction effects of GRIN2B and DRD4 variants on the local functional connectivity (by using the mean of static regional homogeneity (ReHo) and the mean and standard deviation (SD) of dynamic ReHo) in 67 ADHD subjects and 44 controls (aged 6-17 years). GRIN2B genotypes were divided into the C/C
group and T allele carrier group; DRD4 genotypes were divided into the 2R group and non-2R group. The correlation between the ReHo values showing significant diagnosis-genotype interaction and Children's Color Trails Test (CCTT) scores were examined. CCTT measures processing speed, sustained and divided attention. There were significant diagnosis (p < 0.001) and interaction (p = 0.02) effects of the GRIN2B variant on the static ReHo mean in the left superior parietal cluster, and the ReHo value was positively correlated with the CCTT interference score in the ADHD with T allele carrier subgroup (p = 0.012). There were significant diagnosis (p < 0.001) and interaction (p = 0.03) effects of the DRD4 variant on the dynamic ReHo SD in the right superior parietal cluster. These results suggest that alterations in the glutamate and dopamine system in ADHD may contribute to abnormalities in local functional connectivity and its dynamic repertoire in the superior parietal area, and these abnormalities would be related to dysfunction in sustained and divided attention.

Database: Medline

Perceived social support in adults with autism spectrum disorder and attention-deficit/hyperactivity disorder.

Author(s): Alvarez-Fernandez, Sonia; Brown, Hallie R; Zhao, Yihong; Raithel, Jessica A; Bishop, Somer L; Kern, Sarah B; Lord, Catherine; Petkova, Eva; Di Martino, Adriana

Source: Autism research : official journal of the International Society for Autism Research; Mar 2017

Abstract: Perceived social support (PSS) has been related to physical and mental well-being in typically developing individuals, but systematic characterizations of PSS in autism spectrum disorder (ASD) are limited. We compared self-report ratings of the multidimensional scale of PSS (MSPSS) among age- and IQ-matched groups of adults (18-58 years) with cognitively high-functioning ASD (N = 41), or attention-deficit/hyperactivity disorder (ADHD; N = 69), and neurotypical controls (NC; N = 69). Accompanying group comparisons, we used machine learning random forest (RF) analyses to explore predictors among a range of psychopathological and socio-emotional variables. Relative to both ADHD and NC, adults with ASD showed lower MSPSS ratings, specifically for the friends subscale (MSPSS-f). Across ASD and ADHD, interindividual differences in autism severity, affective empathy, symptoms of anxiety related to social interactions, hyperactivity/impulsivity, and somatization best predicted MSPSS-f. These relationships did not differ between clinical groups. While group comparisons demonstrated greater impairment in individuals with ASD, analyzing individuals' characteristics revealed cross-diagnoses similarities in regard to their MSPSS-f relationships. This is consistent with the Research Domain Criteria framework, supporting a trans-diagnostic approach as on the path toward "precision medicine." Autism Res 2017. © 2017 International Society for Autism Research, Wiley Periodicals, Inc.

Database: Medline

Psychometric properties of the Japanese version of the Adult Attention-deficit hyperactivity disorder (ADHD) Self-Report Scale (ASRS-J) and its short scale in accordance with DSM-5 diagnostic criteria.

Author(s): Takeda, Toshinobu; Tsuji, Yui; Kurita, Hiroshi

Source: Research in developmental disabilities; Mar 2017; vol. 63 ; p. 59-66

Abstract: We developed the Japanese version of the Adult ADHD Self-Report Scale (ASRS-J) and report its psychometric properties. The ASRS-J and other questionnaires were administered to 48 adults with ADHD, 46 adults with non-ADHD psychiatric disorders, 96 non-clinical adults, and 894 university students. ADHD diagnoses were made using the Japanese semi-structured diagnostic interview for adult ADHD, which is compatible with the DSM-5. The ASRS-J, its subscales, and the short form, all had Cronbach's α values of around 0.80. Total scores on the ASRS-J and the ASRS-J-6 were highly correlated with readministration after a two-week interval. The total and 18 individual item scores in the ASRS-J were significantly higher in the ADHD group than the other three groups. ASRS-J scores were correlated with scores on the Japanese version of Conners' Adult ADHD Rating Scales-Self Report subscales (0.59≤r≤0.77), with one exception. ASRS-J scores were also correlated (albeit more weakly; r=0.38) with Beck Depression Inventory-II total scores. Employing optimal cut-offs, sensitivity, specificity, and positive and negative predictive values of the ASRS-J and ASRS-J-6 are all above 0.69. The ASRS-J and ASRS-J-6 showed acceptable psychometric properties, although further study is necessary.

Database: Medline
Predictors of Long-Term School-Based Behavioral Outcomes in the Multimodal Treatment Study of Children with Attention-Deficit/Hyperactivity Disorder.

Author(s): Reed, Margot O; Jakubovski, Ewgeni; Johnson, Jessica A; Bloch, Michael H

Source: Journal of child and adolescent psychopharmacology; Mar 2017

Abstract: OBJECTIVE To explore predictors of 8-year school-based behavioral outcomes in attention-deficit/hyperactivity disorder (ADHD). METHODS We examined potential baseline predictors of school-based behavioral outcomes in children who completed the 8-year follow-up in the multimodal treatment study of children with ADHD. Stepwise logistic regression and receiver operating characteristic (ROC) analysis identified baseline predictors that were associated with a higher risk of truancy, school discipline, and in-school fights. RESULTS Stepwise regression analysis explained between 8.1% (in-school fights) and 12.0% (school discipline) of the total variance in school-based behavioral outcomes. Logistic regression identified several baseline characteristics that were associated with school-based behavioral difficulties 8 years later, including being male (associated with truancy and school discipline), African American (school discipline, in-school fights), increased conduct disorder (CD) symptoms (truancy), decreased affection from parents (school discipline), ADHD severity (in-school fights), and study site (truancy and school discipline). ROC analyses identified the most discriminative predictors of truancy, school discipline, and in-school fights, which were Aggression and Conduct Problem Scale Total score, family income, and race, respectively. CONCLUSIONS A modest, but nontrivial portion of school-based behavioral outcomes, was predicted by baseline childhood characteristics. Exploratory analyses identified modifiable (lack of paternal involvement, lower parental knowledge of behavioral principles, and parental use of physical punishment), somewhat modifiable (income and having comorbid CD), and nonmodifiable (African American and male) factors that were associated with school-based behavioral difficulties. Future research should confirm that the associations between earlier specific parenting behaviors and poor subsequent school-based behavioral outcomes are, indeed, causally related and independent cooccurring childhood psychopathology. Future research might target increasing paternal involvement and parental knowledge of behavioral principles and reducing use of physical punishment to improve school-based behavioral outcomes in children with ADHD.

Database: Medline

A Causal and Mediation Analysis of the Comorbidity Between Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD).

Author(s): Sokolova, Elena; Oerlemans, Anoek M; Rommelse, Nanda N; Groot, Perry; Hartman, Catharina A; Glennon, Jeffrey C; Claassen, Tom; Heskes, Tom; Buitelaar, Jan K

Source: Journal of autism and developmental disorders; Mar 2017

Abstract: Autism spectrum disorder (ASD) and Attention-deficit/hyperactivity disorder (ADHD) are often comorbid. The purpose of this study is to explore the relationships between ASD and ADHD symptoms by applying causal modeling. We used a large phenotypic data set of 417 children with ASD and/or ADHD, 562 affected and unaffected siblings, and 414 controls, to infer a structural equation model using a causal discovery algorithm. Three distinct pathways between ASD and ADHD were identified: (1) from impulsivity to difficulties with understanding social information, (2) from hyperactivity to stereotypic, repetitive behavior, (3) a pairwise pathway between inattention, difficulties with understanding social information, and verbal IQ. These findings may inform future studies on understanding the pathophysiological mechanisms behind the overlap between ASD and ADHD.

Database: Medline

The Influence of Child Gender on the Prospective Relationships between Parenting and Child ADHD.

Author(s): Demmer, David H; Puccio, Francis; Stokes, Mark A; McGillivray, Jane A; Hooley, Merrilyn

Source: Journal of abnormal child psychology; Mar 2017

Abstract: The aims of the current study were to (i) explore the potential bidirectional, prospective relationships between parenting and child ADHD, and (ii) explore whether these relationships differed on the basis of child gender. Data were obtained from waves 1 (children aged 4- to 5-years) to 5 (children aged 12- to 13-years) of the Longitudinal Study of Australian Child (LSAC) dataset (child cohort). In order to examine dimensions of both mothers' and fathers' parenting, a subsample of nuclear families with mothers, fathers and children present at all waves was extracted (final sample = 1932; sons = 981, daughters = 951). Child ADHD measures included the hyperactive-impulsive subscale of the strengths and difficulties
questionnaire for symptoms, and parent-report question for diagnosis. Mothers and fathers completed scales on dimensions of Angry, Warm and Consistent Parenting. A cross-lagged panel model demonstrated (i) higher child ADHD symptoms at wave 1 led to a global increase in less-than-optimal parenting at wave 2, and (ii) child ADHD symptoms and Angry Parenting shared a prospective, bidirectional relationship (whereby increases in one predicted increases in the other over time) during earlier years of development. Latent growth curve models demonstrated that increases in Angry Parenting across time were significantly predicted by increases in child ADHD symptoms. A logistic regression demonstrated that both mothers’ and fathers’ Angry Parenting at wave 1 significantly predicted an ADHD diagnosis in children at wave 3. No predictive relationships differed between child genders; thus, it appears these prospective pathways are similar for both sons and daughters.

**Database:** Medline

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**Neuroimaging the neural correlates of increased risk for substance use disorders in attention-deficit/hyperactivity disorder-A systematic review.**

**Author(s):** Adisetiyo, Vitria; Gray, Kevin M

**Source:** The American journal on addictions; Mar 2017; vol. 26 (no. 2); p. 99-111

**Abstract:** BACKGROUND/OBJECTIVES Children with attention-deficit/hyperactivity disorder (ADHD) are nearly three times more likely to develop substance use disorders (SUD) than their typically developing peers. Our objective was to review the existing neuroimaging research on high-risk ADHD (ie, ADHD with disruptive behavior disorders, familial SUD and/ or early substance use), focusing on impulsivity as one possible mechanism underlying SUD risk. METHODS A PubMed literature search was conducted using combinations of the keywords “ADHD,” “substance use,” “substance use disorder,” “SUD,” “addiction,” “dependence,” “abuse,” “risk,” “brain” “MRI,” “imaging” and “neuroimaging.” Studies had to include cohorts that met diagnostic criteria for ADHD; studies of individuals with ADHD who all met criteria for SUD were excluded. Eight studies met the search criteria. RESULTS Individuals with high-risk ADHD have hyperactivation in the motivation-reward processing brain network during tasks of impulsive choice, emotion processing, and risky decision-making. During response inhibition tasks, they have hypoactivation in the inhibitory control brain network. However, studies focusing on this latter circuit found hypoactivation during inhibitory control tasks, decreased white matter microstructure coherence and reduced cortical thickness in ADHD independent of substance use history. DISCUSSION/CONCLUSIONS An exaggerated imbalance between the inhibitory control network and the motivation-reward processing network is theorized to distinguish individuals with high-risk ADHD. Preliminary findings suggest that an exaggerated aberrant reward processing network may be the driving neural correlate of increased SUD risk in ADHD. SCIENTIFIC SIGNIFICANCE Neural biomarkers of increased SUD risk in ADHD could help clinicians identify which patients may benefit most from SUD prevention. Thus, more neuroimaging research on this vulnerable population is needed. (Am J Addict 2017;26:99-111).

**Database:** Medline

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**Attention-deficit/hyperactivity disorder symptoms and loneliness among adults in the general population.**

**Author(s):** Stickley, Andrew; Koyanagi, Ai; Takahashi, Hidetoshi; Ruchkin, Vladislav; Kamio, Yoko

**Source:** Research in developmental disabilities; Mar 2017; vol. 62 ; p. 115-123

**Abstract:** BACKGROUND Research on the association between adult attention-deficit/hyperactivity disorder (ADHD) and loneliness is scarce even though factors which have been previously linked to loneliness, such as divorce and poorer mental health may be more prevalent among adults with ADHD. This study investigated the relation between ADHD symptoms/symptom severity and loneliness in the general adult population. METHODS Data from the Adult Psychiatric Morbidity Survey 2007 (N=7403, aged ≥16years) were analyzed. ADHD symptoms and common mental disorders (CMDs) were assessed with the Adult ADHD Self-Report Scale (ASRS) Screener and the Clinical Interview Schedule Revised, respectively. Loneliness was measured with a question from the Social Functioning Questionnaire. Multivariable logistic regression analysis was used to examine the associations. RESULTS In the fully adjusted model, an ASRS score ≥14 was strongly associated with loneliness (OR=2.48 95%CI=1.83-3.36). ADHD symptom severity was related to loneliness in a dose-response fashion. Over one-third of the association between ADHD symptoms and loneliness was explained by CMDs. CONCLUSIONS Adults with more ADHD symptoms are at an increased risk of feeling lonely. Future research should determine how ADHD symptoms are linked to loneliness and if loneliness is affecting well-being.
What do childhood attention deficit/hyperactivity symptoms in depressed adults tell us about the bipolar spectrum?

Author(s): Purper-Ouakil, D; Porfirio, M C; Le Strat, Y; Falissard, B; Gorwood, P; Masi, G

Source: Psychiatry research; Mar 2017; vol. 249 ; p. 244-251

Abstract: BACKGROUND This study aims to establish if adult patients with major depressive disorder (MDD) and childhood Attention Deficit/Hyperactivity disorder (ADHD) symptoms would be more frequently within the bipolar spectrum than depressed patients without childhood ADHD. METHODS This study was carried out in outpatients recruited by psychiatrists in private practice, with 3963 participants being included in the final sample. Clinicians filled out questionnaires about current depressive symptoms in their patients, lifetime bipolar symptoms, global assessment of functioning and parental history of both major depression and bipolar disorder. Patients assessed current level of anxiety and depressive symptoms and antecedents of childhood ADHD symptoms. RESULTS Depressed adults with significant childhood ADHD symptoms had a specific pattern of their major depressive episode compared to depressed patients without such symptoms. Subjects with childhood ADHD symptoms were more likely to report lifetime symptoms of mania/hypomania and to have a parent with type I or II bipolar disorder. The developmental trajectories of familial risk for lifetime bipolar symptoms showed that parental bipolar disorder influenced lifetime bipolar symptoms both through a direct pathway and an indirect pathway involving childhood ADHD symptoms. Childhood ADHD and number of depressive symptoms both made direct contributions to lifetime bipolar symptoms.

ADHD medications and cardiovascular adverse events in children and adolescents: cross-national comparison of risk communication in drug labeling.

Author(s): Sieluk, Jan; Palasik, Brittany; dosReis, Susan; Doshi, Peter

Source: Pharmacoepidemiology and drug safety; Mar 2017; vol. 26 (no. 3); p. 274-284

Abstract: PURPOSE Regulators approve written medical information for healthcare professionals and consumers, but the consistency of these sources has not been studied. We investigated the consistency of information regarding four cardiovascular risks of attention-deficit/hyperactivity disorder (ADHD) medications approved in four countries. METHODS Professional and consumer product labeling for five ADHD medications approved in Australia, Canada, the UK, and the USA were obtained in March/April 2016. Language describing the relationship between medication and elevated blood pressure and/or heart rate, myocardial infarction, stroke, and sudden death was extracted verbatim and classified into one of four categories based on the described relationship between medication and adverse event: “confirmed,” “unconfirmed,” “mixed,” and “not mentioned.” We judged the consistency of messages delivered to healthcare professionals and consumers as either “consistent” or “inconsistent. RESULTS We obtained 20 healthcare professional labels and 20 corresponding consumer labels for the five ADHD medications registered in all four countries. Not all professional and consumer labeling contained language regarding all four adverse events. Of the 80 theoretically evaluable drug-risk pairs, 38 (48%) were not evaluable because of absence of mention of the adverse event in the consumer label. For the remaining 42, the potential causal relationship was expressed consistently in professional and consumer labeling in 25 (60%) cases. The cardiovascular risk profile was not described consistently across all four countries for any of the five drugs. CONCLUSIONS Product labeling provides healthcare professionals and consumers with inconsistent messages regarding the potential causal relationship between stimulant use and specific cardiovascular risks in children and adolescents.

Association of atopic diseases and attention-deficit/hyperactivity disorder: A systematic review and meta-analyses.

Author(s): Schans, Jurjen van der; Çiçek, Rukiye; de Vries, Tjalling W; Hak, Eelko; Hoekstra, Pieter J

Source: Neuroscience and biobehavioral reviews; Mar 2017; vol. 74 ; p. 139-148

Abstract: Over the last decades, the hypothesis has been raised that an atopic response could lead to the development of attention-deficit/hyperactivity disorder (ADHD). This study systematically reviews the observational cross-sectional and longitudinal studies that assessed the association between atopic...
disorders including asthma, atopic eczema, allergic rhinitis, and ADHD in children and adolescents. For longitudinal studies, a weighted Mantel-Haenszel odds ratio of these associations was estimated. The majority of cross-sectional and longitudinal studies reported a statistically significant positive association. The meta-analysis of longitudinal studies revealed an overall weighted odds ratio for asthma of 1.34 (95% confidence interval [CI] 1.24-1.44), 1.32 (95% CI 1.20-1.45) for atopic eczema, and 1.52 (95% CI 1.43-1.63) for allergic rhinitis. Heterogeneity of study data was low (I2: 0%, p=0.46 and p=0.64, respectively) for both studies examining asthma and eczema but substantial for rhinitis studies (I2: 82%, p=0.004). This current systematic review provides strong evidence that ADHD is associated with atopic diseases and that individuals have a 30% to 50% greater chance of developing ADHD compared to controls.

Database: Medline

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Associations Between Autoimmune Diseases and Attention-Deficit/Hyperactivity Disorder: A Nationwide Study.

Author(s): Nielsen, Philip Rising; Benros, Michael Eriksen; Dalsgaard, Søren

Source: Journal of the American Academy of Child and Adolescent Psychiatry; Mar 2017; vol. 56 (no. 3); p. 234

Abstract: OBJECTIVE Recent studies have suggested that autoimmune diseases and immune activation play a part in the pathogenesis of different neurodevelopmental disorders. This study investigated the association between a personal history and a family history of autoimmune disease and the risk of developing attention-deficit/hyperactivity disorder (ADHD).METHODA cohort was formed of all singletons born in Denmark from 1990 to 2007, resulting in a study population of 983,680 individuals followed from 1995 to 2012. Information on autoimmune diseases was obtained from the Danish National Hospital Register. Individuals with ADHD were identified through the Danish National Hospital Register and the Danish Psychiatric Central Register. RESULTS In total, 23,645 children were diagnosed with ADHD during the study period. Autoimmune disease in the individual was associated with an increased risk of ADHD by an incidence rate ratio of 1.24 (95% CI 1.10-1.40). The primary analyses associated maternal autoimmune disease with ADHD in the offspring (incidence rate ratio 1.12, 95% CI 1.06-1.19), whereas a paternal history of autoimmune diseases was not significantly associated with ADHD in the offspring. In exploratory analyses, an increased risk of ADHD was observed for children with a family history of thyrotoxicosis, type 1 diabetes, autoimmune hepatitis, psoriasis, and ankylosing spondylitis. CONCLUSION A personal history and a maternal history of autoimmune disease were associated with an increased risk of ADHD. The previously reported association between type 1 diabetes and ADHD was confirmed. In addition, specific parental autoimmune diseases were associated with ADHD in offspring.

Database: Medline

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Physician practices to prevent ADHD stimulant diversion and misuse.

Author(s): Colaneri, Natalie; Keim, Sarah; Adesman, Andrew

Source: Journal of substance abuse treatment; Mar 2017; vol. 74 ; p. 26-34

Abstract: BACKGROUND Recent studies report that a significant number of adolescents misuse and divert prescription stimulants. As prescribers of these medications, physicians have a unique opportunity to help prevent the improper use and unlawful distribution of these medications. This study evaluates the extent to which physicians employ prevention practices with their adolescent patients with ADHD and their perceptions of the effectiveness of these practices. METHODS A questionnaire was developed and mailed to child and adolescent psychiatrists, child neurologists, and developmental-behavioral pediatrics in the US. Descriptive statistics were performed on the final sample (n=828; response rate=18.4%), as were regressions to identify differences when physicians were grouped by subspecialty and prescribing volume. RESULTS Many physicians "never" or "rarely" use medication contracts (85.2%) or distribute print materials (81.0%) to patients with ADHD when they suspect misuse and/or diversion. 46.2% do not "often" refer for drug counseling or substance abuse treatment when they suspect a patient of stimulant misuse and/or diversion. The leading prevention practices implemented by physician respondents at least "often" when they suspect stimulant misuse and/or diversion are prescribing long-acting instead of immediate-release stimulants (79.2%) and prescribing non-stimulants (71.9%). 71.4% of respondents believed prescribing non-stimulants is "very effective" at preventing misuse and diversion. Conversely, 53.4% and 31.5% of physicians, respectively, labeled using a medication contract and distributing print materials as "not likely effective." Child and adolescent psychiatrists were more likely to implement certain prevention practices compared to other subspecialists. Many responding physicians do not regularly implement practices that may prevent stimulant misuse, and the majority thinks most prevention practices are not very
Physicians should assume greater responsibility in the prevention of stimulant misuse and diversion by implementing prevention practices more often with their adolescent patients with ADHD. With respect to the generalizability of these findings, it must be noted that the sample was limited to pediatric subspecialists and may be influenced by selection bias and response bias. Further research must be performed to better understand physicians’ views of the risks and benefits of stimulants and to ascertain best practices for the prevention of stimulant misuse and diversion.

**Effective.**

**Conclusion**

Physicians should assume greater responsibility in the prevention of stimulant misuse and diversion by implementing prevention practices more often with their adolescent patients with ADHD. With respect to the generalizability of these findings, it must be noted that the sample was limited to pediatric subspecialists and may be influenced by selection bias and response bias. Further research must be performed to better understand physicians’ views of the risks and benefits of stimulants and to ascertain best practices for the prevention of stimulant misuse and diversion.

**Database:** Medline

**FDA-Approved Drugs to Treat ADHD.**

**Source:** Journal of psychosocial nursing and mental health services; Mar 2017; vol. 55 (no. 3); p. 17-18

Available in full text at Journal of Psychosocial Nursing and Mental Health Services - from ProQuest

**Database:** Medline

**Effects of dopaminergic genes, prenatal adversities, and their interaction on attention-deficit/hyperactivity disorder and neural correlates of response inhibition.**

**Author(s):** van der Meer, Dennis; Hartman, Catharina A; van Rooij, Daan; Franke, Barbara; Heslenfeld, Dirk J; Oosterlaan, Jaap; Faraone, Stephen V; Buitelaar, Jan K; Hoekstra, Pieter J

**Source:** Journal of psychiatry & neuroscience : JPN; Mar 2017; vol. 42 (no. 2); p. 113-121

Available in full text at Journal of Psychiatry and Neuroscience : JPN - from ProQuest

**Abstract:** BACKGROUND Attention-deficit/hyperactivity disorder (ADHD) is often accompanied by impaired response inhibition; both have been associated with aberrant dopamine signalling. Given that prenatal exposure to alcohol or smoking is known to affect dopamine-rich brain regions, we hypothesized that individuals carrying the ADHD risk alleles of the dopamine receptor D4 (DRD4) and dopamine transporter (DAT1) genes may be especially sensitive to their effects. METHODS Functional MRI data, information on prenatal adversities and genetic data were available for 239 adolescents and young adults participating in the multicentre ADHD cohort study NeuroIMAGE (average age 17.3 yr). We analyzed the effects of DRD4 and DAT1, prenatal exposure to alcohol and smoking and their interactions on ADHD severity, response inhibition and neural activity. RESULTS We found no significant gene × environment interaction effects. We did find that the DRD4 7-repeat allele was associated with less superior frontal and parietal brain activity and with greater activity in the frontal pole and occipital cortex. Prenatal exposure to smoking was also associated with lower superior frontal activity, but with greater activity in the parietal lobe. Further, those exposed to alcohol had more activity in the lateral orbitofrontal cortex, and the DAT1 risk variant was associated with lower cerebellar activity. LIMITATIONS Retrospective reports of maternal substance use and the cross-sectional study design restrict causal inference. CONCLUSION While we found no evidence of gene × environment interactions, the risk factors under investigation influenced activity of brain regions associated with response inhibition, suggesting they may add to problems with inhibiting behaviour.

**Database:** Medline

**Cortical morphology as a shared neurobiological substrate of attention-deficit/hyperactivity symptoms and executive functioning: a population-based pediatric neuroimaging study.**

**Author(s):** Mous, Sabine E; White, Tonya; Muetzel, Ryan L; El Marroun, Hanan; Rijlaarsdam, Jolien; Polderman, Tinca J C; Jaddoe, Vincent W; Verhulst, Frank C; Posthuma, Danielle; Tiemeier, Henning

**Source:** Journal of psychiatry & neuroscience : JPN; Mar 2017; vol. 42 (no. 2); p. 103-112

**Publication Date:** Mar 2017

**Publication Type(s):** Journal Article

Available in full text at Journal of Psychiatry and Neuroscience : JPN - from ProQuest

**Abstract:** BACKGROUND Attention-deficit/hyperactivity symptoms have repeatedly been associated with poor cognitive functioning. Genetic studies have demonstrated a shared etiology of attention-deficit/hyperactivity disorder (ADHD) and cognitive ability, suggesting a common underlying neurobiology of ADHD and cognition. Further, neuroimaging studies suggest that altered cortical development is related to ADHD. In a large population-based sample we investigated whether cortical morphology, as a potential neurobiological substrate, underlies the association between attention-deficit/hyperactivity symptoms and cognitive problems. METHODS The sample consisted of school-aged children with data on attention-
deficit/hyperactivity symptoms, cognitive functioning and structural imaging. First, we investigated the
association between attention-deficit/ hyperactivity symptoms and different domains of cognition. Next, we
identified cortical correlates of attention-deficit/hyperactivity symptoms and related cognitive domains.
Finally, we studied the role of cortical thickness and gyrification in the behaviour-cognition associations.
RESULTS We included 776 children in our analyses. We found that attention-deficit/hyperactivity
symptoms were associated specifically with problems in attention and executive functioning (EF; b = -
0.041, 95% confidence interval [CI] -0.07 to -0.01, p = 0.004). Cortical thickness and gyrification were
associated with both attention-deficit/hyperactivity symptoms and EF in brain regions that have been
previously implicated in ADHD. This partly explained the association between attention-deficit/hyperactivity
symptoms and EF (bindirect = -0.008, bias-corrected 95% CI -0.018 to -0.001).LIMITATIONS The nature of
our study did not allow us to draw inferences regarding temporal associations; longitudinal studies are
needed for clarification.CONCLUSION In a large, population-based sample of children, we identified a
shared cortical morphology underlying attention-deficit/hyperactivity symptoms and EF.

Database: Medline

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Regulation of emotion in ADHD: can children with ADHD override the natural tendency to
approach positive and avoid negative pictures?

Author(s): Van Cauwenberge, Valerie; Sonuga-Barke, Edmund J S; Hoppenbrouwers, Karel; Van
Leeuwen, Karla; Wiersema, Jan R

Source: Journal of neural transmission (Vienna, Austria : 1996); Mar 2017; vol. 124 (no. 3); p. 397-406

Abstract: Studies have demonstrated inefficient use of antecedent-focused emotion regulation strategies
in children with ADHD attention-deficit/hyperactivity disorder (ADHD). In the current study we tested for the
first time if ADHD is also associated with difficulties in response-focused strategies by measuring the ability
to override action tendencies induced by emotional information. Performance data on a computer-based
approach-avoidance paradigm of 28 children with ADHD and 38 typically developing children between 8
and 15 years of age were analyzed, by comparing a congruent condition in which they were instructed to
approach positive and avoid negative pictures and an incongruent condition where they had to override
these automatic reactions and approach negative and avoid positive pictures. Children also rated the
valence and salience of the pictures. Children with ADHD and typically developing children rated the
emotional valence of the pictures appropriately and similarly, while positive pictures were rated as more
arousing by children with ADHD. Solid congruency effects were found indicating that the task measured
response-focused emotion regulation; however groups did not differ in this respect. Our findings do not
support a deficit in emotion regulation in ADHD in terms of the ability to override natural tendencies to
approach positive and avoid negative pictures.

Database: Medline

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Outcomes for adolescents who comply with long-term psychosocial treatment for ADHD.

Author(s): Schultz, Brandon K; Evans, Steven W; Langberg, Joshua M; Schoemann, Alexander M

Source: Journal of consulting and clinical psychology; Mar 2017; vol. 85 (no. 3); p. 250-261
Available in full text at Journal of Consulting and Clinical Psychology - from ProQuest

Abstract: OBJECTIVE We conducted a large (N = 216) multisite clinical trial of the Challenging Horizons
Program (CHP)-a yearlong afterschool program that provides academic and interpersonal skills training for
adolescents with attention-deficit/hyperactivity disorder. Intent-to-treat analyses suggest that, as predicted,
the CHP resulted in significant reductions in problem behaviors and academic impairment when compared
to community care. However, attendance in the CHP ranged from zero to 60 sessions, raising questions
about optimal dosing. METHOD To evaluate the impact of treatment compliance, complier average causal
effect modeling was used to compare participants who attended 80% or more of sessions to an estimate of
outcomes for comparable control participants. RESULTS Treatment compliers exhibited medium to large
benefits (ds = 0.56 to 2.00) in organization, disruptive behaviors, homework performance, and grades
relative to comparable control estimates, with results persisting 6 months after treatment ended. However,
compliance had little impact on social skills. CONCLUSIONS Students most in need of treatment were
most likely to comply, resulting in significant benefits in relation to comparable control participants who
experienced deteriorating outcomes over time. Difficulties relating to dose-response estimation and the
potentially confounding influence of treatment acceptability, accessibility, and client motivation are
discussed.

Database: Medline
The impact of adjunctive guanfacine extended release on stimulant adherence in children/adolescents with attention-deficit/hyperactivity disorder.

**Author(s):** Meyers, Juliana; Gajria, Kavita; Candrilli, Sean D; Fridman, Moshe; Sikirica, Vanja

**Source:** Journal of comparative effectiveness research; Mar 2017; vol. 6 (no. 2); p. 109-125

**Abstract:** AIM To assess stimulant adherence among children/adolescents with attention-deficit/hyperactivity disorder (ADHD) augmenting stimulants with guanfacine extended-release (GXR). PATIENTS & METHODS Inclusion criteria: 6-17 years, ≥1 ADHD diagnosis, ≥1 long-acting and/or short-acting stimulant with GXR augmentation. Modified medication possession ratio (mMPR; days medication available/days in period, excluding medication holidays) was assessed; mMPR <0.80 nonadherent. Regression models assessed change in mMPR adjusting for demographic and clinical characteristics. RESULTS Among patients nonadherent to stimulants pre-augmentation (n = 165), unadjusted mean (SD) pre- and post-stimulant mMPRs were 0.68 (0.11) and 0.87 (0.16). Adjusted mean change in mMPR was 0.20 for long-acting versus 0.18 for short-acting stimulants (p = 0.34). CONCLUSION Among patients nonadherent to stimulants, GXR augmentation was associated with increased stimulant adherence.

**Database:** Medline

ADHD and Sleep Quality: Longitudinal Analyses From Childhood to Early Adulthood in a Twin Cohort.

**Author(s):** Gregory, Alice M; Agnew-Blais, Jessica C; Matthews, Timothy; Moffitt, Terrie E; Arseneault, Louise

**Source:** Journal of clinical child and adolescent psychology : the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53; 2017; vol. 46 (no. 2); p. 284-294

**Abstract:** Attention-deficit/hyperactivity disorder (ADHD) is associated with poor sleep quality, but there is more to learn about the longitudinal association and aetiology of this association. We investigated the following: (a) Is there an association between childhood ADHD and poor sleep quality in young adulthood? (b) Is this driven by the long-term effects of childhood ADHD or concurrent associations with ADHD in young adulthood? (c) To what extent do genetic and environmental influences explain the overlap between symptoms of ADHD and poor sleep quality? Participants were from the Environmental Risk Longitudinal Twin Study of 2,232 twin children born in the United Kingdom in 1994-1995. We ascertained ADHD diagnoses at ages 5, 7, 10, 12, and 18. We assessed sleep quality using the Pittsburgh Sleep Quality Index at age 18. We used regression models to examine longitudinal associations and bivariate twin modelling to test genetic and environmental influences. Children with ADHD had poorer sleep quality in young adulthood, but only if their ADHD persisted. Adults with ADHD had more sleep problems than those without ADHD, over and above psychiatric comorbidity and maternal insomnia. ADHD and sleep problems in young adulthood were associated because of genetic (55%) and nonshared environmental influences (45%). Should ADHD remit, children with ADHD do not appear to have an increased risk of later sleep problems. Good quality sleep is important for multiple areas of functioning, and a better understanding of why adults with ADHD have poorer sleep quality will further the goal of improving treatments.

**Database:** Medline

Evidence for increased behavioral control by punishment in children with attention-deficit hyperactivity disorder.

**Author(s):** Furukawa, Emi; Alsop, Brent; Sowerby, Paula; Jensen, Stephanie; Tripp, Gail

**Source:** Journal of child psychology and psychiatry, and allied disciplines; Mar 2017; vol. 58 (no. 3); p. 248-257

**Abstract:** BACKGROUND The behavioral sensitivity of children with ADHD to punishment has received limited theoretical and experimental attention. This study evaluated the effects of punishment on the response allocation of children with ADHD and typically developing children. METHOD Two hundred and ten children, 145 diagnosed with ADHD, completed an operant task in which they chose between playing two simultaneously available games. Reward was arranged symmetrically across the games under concurrent variable interval schedules. Asymmetric punishment schedules were superimposed; responses on one game were punished four times as often as responses on the other. RESULTS Both groups
allocated more of their responses to the less frequently punished alternative. Response bias increased significantly in the ADHD group during later trials, resulting in missed reward trials and reduced earnings. **CONCLUSIONS** Punishment exerted greater control over the response allocation of children with ADHD with increased time on task. Children with ADHD appear more sensitive to the cumulative effects of punishment than typically developing children.

**Database:** Medline

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**Maternal prepregnancy body mass index and offspring attention-deficit/hyperactivity disorder: a quasi-experimental sibling-comparison, population-based design.**

**Author(s):** Musser, Erica D; Willoughby, Michael T; Wright, Suzanne; Sullivan, Elinor L; Stadler, Diane D; Olson, Brent F; Steiner, Robert D; Nigg, Joel T

**Source:** Journal of child psychology and psychiatry, and allied disciplines; Mar 2017; vol. 58 (no. 3); p. 240-247

**Abstract:** BACKGROUND High maternal prepregnancy body mass index (BMI) has been associated with increased risk of offspring attention-deficit/hyperactivity disorder (ADHD). However, whether this effect is attributable to maternal or familial level confounds has been little examined. METHODS The present study sought to examine these associations, utilizing data from the medical records of a health care system which treats 350,000 patients annually and a sibling-comparison design in a sample of 4,682 children born to 3,645 mothers. RESULTS When examining the overall maternal effect, a linear association was observed between maternal prepregnancy BMI and child ADHD [b = 0.04, 95% confidence interval (95% CI) = 0.02-0.06, p = .0003], such that a one-unit (i.e. 1 kg/m2 ) increase in prepregnancy BMI was associated with a 4% increase in the odds of ADHD (exp b = 1.04). However, when the model was reparameterized to take full advantage of the sibling design to allow for the examination of both maternal and child-specific effects, the child-specific prepregnancy BMI effect was not reliably different from zero (b = -0.08, 95% CI = -0.23 to 0.06, p = .24). In contrast, at the maternal-level, average prepregnancy BMI was a reliably non-zero predictor of child ADHD (b = 0.04, 95% CI = 0.02-0.06, p < .0001) with each one-unit increase in maternal prepregnancy BMI associated with a 4.2% increase in the odds of ADHD (exp b = 1.04, 95% CI = 1.02-1.06). CONCLUSIONS The association between maternal prepregnancy BMI and offspring ADHD may be better accounted for by familial or maternal confounds rather than a direct causal effect of BMI.

**Database:** Medline

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**Social skills deficits and their association with Internet addiction and activities in adolescents with attention-deficit/hyperactivity disorder.**

**Author(s):** Chou, Wen-Jiun; Huang, Mei-Feng; Chang, Yu-Ping; Chen, Yu-Min; Hu, Huei-Fan; Yen, Cheng-Fang

**Source:** Journal of behavioral addictions; Mar 2017; p. 1-9

**Abstract:** Background and aims The aims of this study were to examine the association between social skills deficits and Internet addiction and activities in adolescents with attention-deficit/hyperactivity disorder (ADHD) as well as the moderators for this association. Methods A total of 300 adolescents, aged between 11 and 18 years, who had been diagnosed with ADHD participated in this study. Their Internet addiction levels, social skills deficits, ADHD, parental characteristics, and comorbidities were assessed. The various Internet activities that the participants engaged in were also examined. Results The associations between social skills deficits and Internet addiction and activities and the moderators of these associations were examined using logistic regression analyses. Social skills deficits were significantly associated with an increased risk of Internet addiction after adjustment for the effects of other factors [odds ratio (OR) = 1.049, 95% confidence interval (CI) = 1.030-1.070]. Social skills deficits were also significantly associated with Internet gaming and watching movies. The maternal occupational socioeconomic levels of the participants moderated the association between social skills deficits and Internet addiction. Conclusions Social skills deficits should be considered targets in prevention and intervention programs for treating Internet addiction among adolescents with ADHD.

**Database:** Medline

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**Efficacy and Safety of Omega-3/6 Fatty Acids, Methylphenidate, and a Combined Treatment in Children With ADHD.**

**Author(s):** Barragán, Eduardo; Breuer, Dieter; Döpfner, Manfred
**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 433-441

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 416-425

**Abstract:** OBJECTIVE To assess the accuracy of electronic health record (EHR)-derived diagnoses in identifying children with incident ADHD. METHOD In 10 large health care organizations, electronic diagnoses data were used to identify all potential cases of incident ADHD among 3- through 9-year-old children. A random sample of records was manually reviewed to determine whether a diagnosis of ADHD was documented in clinician notes. RESULTS From electronic diagnoses data, a total of 7,362 children with incident ADHD were identified. Upon manual review of 500 records, the diagnosis of incident ADHD was confirmed in clinician notes for 71.5% (95% confidence interval [CI] = [56.5, 86.4]) of records for 3- through 5-year-old children and 73.6% (95% CI = [65.6, 81.6]) of records for 6- through 9-year-old children. CONCLUSION Studies predicated on the identification of incident ADHD cases will need to carefully consider study designs that minimize the likelihood of case misclassification.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 405-415

**Abstract:** OBJECTIVE To identify ADHD symptoms that are most highly predictive of ADHD diagnostic status and compare them against Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV) algorithms in predictions of functional impairment. METHOD Parent and teacher ratings of ADHD were obtained from an ethnically diverse (46% non-White) sample of 151 five- to ten-year-old children (27% female) with (n = 76) and without (n = 75) DSM-IV ADHD. We calculated total predictive values to estimate how ratings of each ADHD symptom predicted ADHD diagnostic status based on a structured parent diagnostic interview. Optimal symptom thresholds (i.e., not at all, just a little, pretty much, very much) for predicting ADHD caseness differed for inattention and hyperactivity and parents versus teachers. Algorithms consisting of highly predictive symptoms were then created and compared against DSM-IV-based algorithms to predict independent measures of functional impairment. RESULTS Several empirically derived symptom algorithms were more strongly associated with functional impairment than DSM-IV-based algorithms. CONCLUSION These preliminary findings suggest that alternative methods to aggregating ADHD symptoms may improve predictions of impairment.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 390-404

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 404

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 425

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 441

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 428

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline

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**Source:** Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 430

**Abstract:** OBJECTIVE To compare efficacy of Omega-3/6 fatty acids (Equazen eye q™) with methylphenidate (MPH) and combined MPH + Omega-3/6 in children with ADHD. METHOD Participants (N = 90) were randomized to Omega-3/6, long-acting MPH, or combination for 12 months. ADHD symptoms were assessed using the ADHD Rating Scale and Clinical Global Impressions-Severity (CGI-S) scale. RESULTS ADHD symptoms decreased in all treatment arms. Although significant differences favoring Omega + MPH over Omega-3/6 alone were found for ADHD Total and Hyperactivity-Impulsivity subscales, results on the Inattention subscale were similar. CGI-S scores decreased slowly and consistently with Omega-3/6, compared with a rapid decrease and subsequent slight increase in the MPH-containing arms. Adverse events were numerically less frequent with Omega-3/6 or MPH + Omega-3/6 than MPH alone. CONCLUSION The tested combination of Omega-3/6 fatty acids had similar effects to MPH, whereas the MPH + Omega combination appeared to have some tolerability benefits over MPH.

**Database:** Medline
Abstract: OBJECTIVE In an effort to address the lack of evidence-based interventions for ADHD in developing South Asian countries, we examined the preliminary efficacy of a behavioral parent training program in Pakistan. METHOD A quasi-experimental design was utilized. Eighty-five 4- to 12-year-old children with clinically significant ADHD symptoms participated: 55 were recruited from hospital clinics (active treatment group) and 30 were recruited from schools (waitlist control group). Parent and teacher ratings of ADHD, oppositional defiant disorder (ODD), and conduct disorder (CD) symptoms and impairment were collected. RESULTS Using intent-to-treat analyses, the treatment group showed significant pre-post improvement on parent-reported ODD symptoms and ADHD-related impairment. Teacher ratings showed no improvement. CONCLUSION This study provides preliminary evidence for the feasibility and effectiveness of behavioral parenting training for children with ADHD in Pakistan and represents a critical first step in identifying evidence-based treatments for Pakistani children with ADHD.

Database: Medline

Diagnostic Utility of the Pediatric Attention Disorders Diagnostic Screener.

Author(s): Newman, Erik; Reddy, Linda A

Source: Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 372-380

Abstract: OBJECTIVE The Pediatric Attention Disorders Diagnostic Screener (PADDS) is an evidence-based screener of attention and executive functioning that combines computer-based Target Tests of Executive Function (TTEFs; Target Recognition, Target Sequencing, and Target Tracking) with parent and teacher behavioral reports to efficiently screen children ages 6 to 12 for ADHD. The present study is the first to examine the utility of the TTEFs in predicting ADHD status. METHOD The PADDS TTEFs were administered to 76 children (age = 6-12) with ADHD and 76 matched controls. Logistic regression and diagnostic efficiency statistics were used to evaluate the ability of the three TTEFs to predicted ADHD status. RESULTS All three TTEFs significantly discriminated ADHD participants from controls, but each had a different diagnostic efficiency profile. Classification accuracy was improved when results of all three TTEFs were combined. CONCLUSION The PADDS is a promising tool for quickly and reliably screening for ADHD in clinic and school settings.

Database: Medline

Possible Cognitive Benefits of Acute Physical Exercise in Children With ADHD.

Author(s): Grassmann, Viviane; Alves, Marcus Vinicius; Santos-Galduróz, Ruth Ferreira; Galduróz, José Carlos Fernandes

Source: Journal of attention disorders; Mar 2017; vol. 21 (no. 5); p. 367-371

Abstract: OBJECTIVE Studies have suggested that even a single session of physical exercise enhances executive functions. ADHD is among the most common developmental disorders in childhood, but little is known about alternative treatments for this disorder. Therefore, we performed a systematic review of the literature to analyze articles that evaluated the executive functions of children with ADHD after an acute exercise session. METHOD We reviewed articles indexed in the PubMed, American Psychiatric Association (APA) psychNET, Scopus, and Web of Knowledge databases between 1980 and 2013. RESULTS Of 231 articles selected, only three met the inclusion criteria. CONCLUSION Based on these 3 articles, we concluded that 30 min of physical exercise reportedly improved the executive functions of children with ADHD. Due to the small number of articles selected, further studies are needed to confirm these benefits.

Database: Medline

Pharmacological Treatment of ADHD in Addicted Patients: What Does the Literature Tell Us?

Author(s): Carpentier, Pieter-Jan; Levin, Frances R

Source: Harvard review of psychiatry; ; vol. 25 (no. 2); p. 50-64

Available in full text at Harvard Review of Psychiatry - from EBSCOhost

Abstract: LEARNING OBJECTIVES After participating in this activity, learners should be better able to: • Evaluate pharmacologic treatment of attention deficit/hyperactivity disorder (ADHD) in patients with substance use disorder (SUD) • Assess the causes of the diminished efficacy of ADHD medication in patients with comorbid SUD OBJECTIVE: Substance use disorder (SUD) and attention-deficit/hyperactivity disorder (ADHD) frequently co-occur, and the presence of ADHD complicates the treatment of the
addition. Pharmacotherapy is a potent intervention in childhood and adult ADHD, but findings have been mixed in adolescent and adult ADHD patients with SUDs. This review focuses on several contributing factors and possible explanations, with implications both for future research and for clinical practice. METHOD This systematic review examined all randomized, placebo-controlled trials of pharmacotherapy for ADHD in adult and adolescent SUD patients. RESULTS The number of studies is limited, and several studies are hampered by qualitative flaws. The results, in general, are inconclusive for most medications studied, but more recent trials using psychostimulants in robust dosing have demonstrated significantly positive results. CONCLUSION In reviewing these trials, possible explanations relating to the particular characteristics and problems of this complex patient group are discussed. Several factors, including ADHD symptom severity, psychiatric comorbidity, persistent drug use, choice of medication, and concomitant psychosocial intervention, influence study results. Taking these factors into account may improve the likelihood of detecting significant effects in future research, as the recent positive trials have indicated, and may help in the appropriate selection of pharmacotherapy in clinical practice.

Database: Medline

Predictors of discrepancies between fathers and mothers in rating behaviors of preschool children with and without ADHD.

Author(s): van der Veen-Mulders, Lianne; Nauta, Maaike H; Timmerman, Marieke E; van den Hoofdakker, Barbara J; Hoekstra, Pieter J

Source: European child & adolescent psychiatry; Mar 2017; vol. 26 (no. 3); p. 365-376

Abstract: To examine child factors and parental characteristics as predictors of discrepancies between parents’ ratings of externalizing and internalizing behavior problems in a sample of preschool children with ADHD and behavior problems and in a nonclinical sample. We investigated correspondence and discrepancies between parents’ ratings on the externalizing and internalizing behavior problems broadband scales of the Child Behavior Checklist version for preschool children (CBCL/1.5-5). Parents of 152 preschool children, with ADHD and behavior problems (n = 72) and nonclinical children (n = 80), aged between 28 and 72 months (M = 47.26, SD = 12.7), completed the CBCL/1.5-5. Candidate predictors of discrepancy included the child’s age and sex, and parents’ levels of parenting stress, depressive mood, attention-deficit and disruptive behavior. Hierarchical multiple regression analyses were conducted. Correspondence between parents, both for ratings on internalizing and externalizing behavior problems, was high (r = .63-.77). In the clinical sample, mothers rated the severity of externalizing behavior problems significantly higher than did fathers (p < .001). Discrepancy between fathers and mothers on externalizing behavior problems was not predicted by child factors or interparental differences in psychopathology, but it was predicted by interparental differences in parenting stress (R² = .25, p < .001). This effect was significantly larger in the nonclinical sample (ΔR² = .06, p < .001). When parents disagree on the severity level of preschool children’s externalizing behavior problems, the clinician should take into consideration that differences in parenting stress might be involved.

Database: Medline

Decision-making in social contexts in youth with ADHD.

Author(s): Ma, Ili; Lambregts-Rommelse, Nanda N J; Buitelaar, Jan K; Gillessen, Antonius H N; Scheres, Anouk P J

Source: European child & adolescent psychiatry; Mar 2017; vol. 26 (no. 3); p. 335-344

Abstract: This study examined reward-related decision-making in children and adolescents with ADHD in a social context, using economic games. We furthermore examined the role of individual differences in reward-related decision-making, specifically, the roles of reward sensitivity and prosocial skills. Children and adolescents (9-17 years) with ADHD-combined subtype (n = 29; 20 boys) and healthy controls (n = 38; 20 boys) completed the ultimatum game and dictator game as measures of reward-related decision-making in social contexts. Prosocial skills were measured with the Interpersonal Reactivity Index. The ADHD group had a larger discrepancy between ultimatum game and dictator game offers than controls, indicating strategic rather than fairness driven decisions. This finding was supported by self-reports showing fewer individuals with ADHD than controls who considered fairness as motive for the decisions. Perspective taking or empathic concern did not differ between groups and was not significantly associated with offers. In conclusion, the results suggest that rather than a failure to understand the perspective of others, children and adolescents with ADHD were less motivated by fairness than controls in simple social situations. Results encourage the use of economic games in ADHD research.
Serotonin transporter polymorphism moderates the effects of caregiver intrusiveness on ADHD symptoms among institutionalized preschoolers.

**Author(s):** Baptista, Joana; Belsky, Jay; Mesquita, Ana; Soares, Isabel  
**Source:** European child & adolescent psychiatry; Mar 2017; vol. 26 (no. 3); p. 303-313

**Abstract:** Research consistently chronicles a variety of mental health difficulties that plague institutionally reared children, including attention-deficit/hyperactivity disorder (ADHD), even if not all institutionalized children evince such problems. In seeking to extend work in this area, this research on gene × environment (GXE) interplay investigated whether the effect of the quality of institutional care-most notably, caregiver intrusiveness-on ADHD symptoms is moderated by the serotonin transporter (5-HTTLPR) polymorphism. One hundred and twenty-seven institutionalized preschoolers were evaluated using the Child Behavior Checklist. Caregiver-rated attention problems and hyperactivity were unrelated to both 5-HTTLPR polymorphism and caregiver intrusiveness. A significant GXE effect, independent of age at placement or duration of institutionalization, emerged, however, consistent with the differential-susceptibility hypothesis: s/s homozygotes manifest the most and least ADHD symptoms when they experienced, respectively, more and less intrusive caregiving. These results provide new insight into the reasons why some institutionalized children, but not others, exhibit ADHD symptoms.

**Database:** Medline

Structure and clinical correlates of obsessive-compulsive symptoms in a large sample of children and adolescents: a factor analytic study across five nations.

**Author(s):** Højgaard, D R M A; Mortensen, E L; Ivarsson, T; Hybel, K; Skarpheðinsson, G; Nissen, J B; Valderhaug, R; Dahl, K; Weidle, B; Torp, N C; Grados, M; Lewin, A B; Melin, K H; Storch, E A; Wolters, L H; Murphy, T K; Sonuga-Barke, E J S; Thomsen, P H  
**Source:** European child & adolescent psychiatry; Mar 2017; vol. 26 (no. 3); p. 281-291

**Abstract:** The underlying structure of obsessive-compulsive disorder (OCD) remains to be confirmed in child and adolescent populations. In this paper we report the first factor analytic study of individual OCD items from Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS). OCD symptoms were assessed using the CY-BOCS symptom checklist in a sample of 854 patients with OCD (7-18 years of age) recruited from clinics in five countries. Pooled data were subjected to exploratory and confirmatory factor analysis (CFA) to identify the optimal factor structure. Various models were tested for age and gender subgroups. Also, the invariance of the solution across age and gender was tested and associations with demographic and clinical factors were explored. A three-factor model provided the best-fit solution. It consisted of the following factors: (1) harm/sexual, (2) symmetry/hoarding, (3) contamination/cleaning. The factor structure was invariant for age and gender across subgroups. Factor one was significantly correlated with anxiety, and factor two with depression and anxiety. Factor three was negatively correlated with tic disorder and attention-deficit/hyperactivity disorder (ADHD). Females had higher scores on factor two than males. The OCD symptom structure in children and adolescents is consistent across age and gender and similar to results from recent child and adolescents although hoarding may not be a separate factor. Our three-factor structure is almost identical to that seen in early studies on adults. Common mental disorders had specific patterns of associations with the different factors.

**Database:** Medline

Resting metabolic rate, pulmonary functions, and body composition parameters in children with attention deficit hyperactivity disorder.

**Author(s):** Alpaslan, Ahmet Hamdi; Ucok, Kagan; Coşkun, Kerem Şenol; Genc, Abdurrahman; Karabacak, Hatice; Guzel, Halil Ibrahim  
**Source:** Eating and weight disorders : EWD; Mar 2017; vol. 22 (no. 1); p. 91-96

**Abstract:** PURPOSE Several studies of school-aged children with attention deficit hyperactivity disorder (ADHD) have found a higher prevalence of overweight/obesity compared with the general population. However, the scientific literature contains insufficient evidence to establish clear conclusions on pulmonary functions, resting metabolic rate (RMR), and body composition in children with ADHD. This study therefore investigates the pulmonary functions tests (PFTs), RMR, and body composition parameters in children with ADHD and evaluates their quality of life. METHODS Forty children with ADHD and 40 healthy controls
participated in the study. The children's parents completed Conners' parent rating scale (CPRS) and the pediatric quality of life (PedsQL), and their teachers completed Conners' Teacher rating scale (CTRS). The child participants also completed the PedsQL. RMR, PFTs, and body composition parameters were investigated. RESULTS No significant differences in age, gender, and socioeconomic level were found. All CPRS subscales, except anxiety and psychosomatic conditions, were significantly different (p < 0.05). According to the CTRS, inattentiveness, hyperactivity, and conduct problems were significantly higher in the ADHD group. The results showed that the ADHD group's quality of life is worse than the control group. Body mass index, body composition parameters, RMR, and PFTs were not statistically different between the children with ADHD and the healthy controls. CONCLUSIONS Further studies with complex designs are needed to confirm the results. Database: Medline

Towards Precision Addiction Treatment: New Findings in Co-morbid Substance Use and Attention-Deficit Hyperactivity Disorders.

Author(s): Luo, Sean X; Levin, Frances R
Source: Current psychiatry reports; Mar 2017; vol. 19 (no. 3); p. 14
Publication Date: Mar 2017
Publication Type(s): Journal Article Review
Abstract: Attention-deficit hyperactivity disorder (ADHD) and substance use disorders (SUDs) may have common etiologies. ADHD is more prevalent in patients with substance use disorders, and this pattern is consistent across different substances of abuse. Individuals with SUDs and ADHD exhibit significant variations in their clinical presentations. The developmental trajectory of ADHD to SUDs is complex: ADHD symptoms appear first in some patients but not in others. Many patients present with a heterogeneous collection of psychiatric and substance use co-morbidities, and these symptoms change over time. ADHD symptom severity is also highly variable, and more severe ADHD symptoms worsen co-morbid SUDs and complicate treatment. New longitudinal studies with innovative methods in high-risk populations and in community-based samples may clarify issues related to patient-treatment matching. When closely monitored, psychostimulant and other adjunct medications can be safely used to treat ADHD in this population, and such treatment may also improve outcome of SUDs. In particular, emerging evidence suggests individual-level tailoring ("precision medicine") approaches may represent a key pathway to improve clinical outcome.
Database: Medline

Reliability and validity of DS-ADHD: A decision support system on attention deficit hyperactivity disorders.

Author(s): Chu, Kuo-Chung; Huang, Yu-Shu; Tseng, Chien-Fu; Huang, Hsin-Jou; Wang, Chih-Huan; Tai, Hsin-Yi
Source: Computer methods and programs in biomedicine; Mar 2017; vol. 140 ; p. 241-248
Abstract: BACKGROUND AND OBJECTIVES The purpose of this study is to examine the reliability of the clinical use of the self-built decision support system, diagnosis-supported attention deficit hyperactivity disorder (DS-ADHD), in an effort to develop the DS-ADHD system, by probing into the development of indicating patterns of past screening support systems for ADHD. METHODS The study collected data based on 107 subjects, who were divided into two groups, non-ADHD and ADHD, based on the doctor's determination, using the DSM-IV diagnostic standards. The two groups then underwent Test of Variables of Attention (TOVA) and DS-ADHD testing. The survey and testing results underwent one-way ANOVA and split-half method statistical analysis, in order to further understand whether there were any differences between the DS-ADHD and the identification tools used in today's clinical trials. RESULTS The results of the study are as follows: 1) The ROC area between the TOVA and the clinical identification rate is 0.787 (95% confidence interval: 0.701-0.872); 2) The ROC area between the DS-ADHD and the clinical identification rate is 0.867 (95% confidence interval: 0.801-0.933). CONCLUSIONS The study results show that DS-ADHD has the characteristics of screening for ADHD, based on its reliability and validity. It does not display any statistical differences when compared with TOVA systems that are currently on the market. However, the system is more effective and the accuracy rate is better than TOVA. It is a good tool to screen ADHD not only in Chinese children, but also in western country.
Database: Medline
Cardiovascular Effects of Stimulant and Non-Stimulant Medication for Children and Adolescents with ADHD: A Systematic Review and Meta-Analysis of Trials of Methylphenidate, Amphetamines and Atomoxetine.

Author(s): Hennissen, Leonie; Bakker, Mireille J; Banaschewski, Tobias; Carucci, Sara; Coghill, David; Danckaerts, Marina; Dittmann, Ralf W; Hollis, Chris; Kovshoff, Hanna; McCarthy, Suzanne; Nagy, Peter; Sonuga-Barke, Edmund; Wong, Ian C K; Zuddas, Alessandro; Rosenthal, Eric; Buitelaar, Jan K; ADDUCE consortium

Source: CNS drugs; Mar 2017; vol. 31 (no. 3); p. 199-215

Abstract: BACKGROUND Many children and adolescents with attention deficit/hyperactivity disorder (ADHD) are treated with stimulant and non-stimulant medication. ADHD medication may be associated with cardiovascular effects. It is important to identify whether mean group effects translate into clinically relevant increases for some individual patients, and/or increase the risk for serious cardiovascular adverse events such as stroke or sudden death. OBJECTIVES To evaluate potential cardiovascular effects of these treatments, we conducted a systematic review and meta-analysis of the effects of methylphenidate (MPH), amphetamines (AMP), and atomoxetine (ATX) on diastolic and systolic blood pressure (DBP, SBP) and heart rate (HR) in children and adolescents with ADHD. METHODS We conducted systematic searches in electronic databases (PsychINFO, EMBASE and Medline) to identify published trials which involved individuals who were (i) diagnosed with ADHD and were aged between 0-18 years; (ii) treated with MPH, AMP or ATX and (iii) had their DBP and SBP and/or HR measured at baseline (pre) and the endpoint (post) of the study treatment. Studies with an open-label design or a double-blind randomised control design of any duration were included. Statistical analysis involved calculating differences between pre- and post-treatment measurements for the various cardiovascular parameters divided by the pooled standard deviation. Further, we assessed the percentage of clinically relevant increased BP or HR, or documented arrhythmias. RESULTS Eighteen clinical trials met the inclusion criteria (10 for MPH, 5 for AMP, and 7 for ATX) with data from 5837 participants (80.7% boys) and average duration of 28.7 weeks (range 4-96 weeks). All three medications were associated with a small, but statistically significant pre-post increase of SBP (MPH: standard mean difference [SMD] 0.25, 95% confidence interval [CI] 0.08-0.42, p < 0.01; AMP: SMD 0.09, 95% CI 0.03-0.15, p < 0.01; ATX: SMD 0.16, 95% CI 0.04-0.27, p = 0.01). MPH did not have a pre-post effect on DBP and HR. AMP treatment was associated with a small but statistically significant pre-post increase of DBP (SMD 0.16, CI 0.03-0.29, p = 0.02), as was ATX treatment (SMD 0.22, CI 0.10-0.34, p < 0.01). AMP and ATX were associated with a small to medium statistically significant pre-post increase of HR (AMP: SMD 0.37, CI 0.13-0.60, p < 0.01; ATX: SMD 0.43, CI 0.26-0.60, p < 0.01). The head-to-head comparison of the three medications did not reveal significant differences. Sensitivity analyses revealed that AMP studies of <18 weeks reported higher effect sizes on DBP compared with longer duration studies (F(1) = 19.55, p = 0.05). Further, MPH studies published before 2007 reported higher effect sizes on SBP than studies after 2007 (F(1) = 5.346, p = 0.05). There was no effect of the following moderators: type of medication, doses, sample size, age, gender, type of ADHD, comorbidity or dropout rate. Participants on medication reported 737 (12.6%) other cardiovascular effects. Notably, 2% of patients discontinued their medication treatment due to any cardiovascular effect. However, in the majority of patients, the cardiovascular effects resolved spontaneously, medication doses were changed or the effects were not considered clinically relevant. There were no statistically significant differences between the medication treatments in terms of the severity of cardiovascular effects. CONCLUSIONS Statistically significant pre-post increases of SBP, DBP and HR were associated with AMP and ATX treatment in children and adolescents with ADHD, while MPH treatment had a statistically significant effect only on SBP in these patients. These increases may be clinically significant for a significant minority of individuals that experience larger increases. Since increased BP and HR in general are considered risk factors for cardiovascular morbidity and mortality during adult life, paediatric patients using ADHD medication should be monitored closely and regularly for HR and BP.

Database: Medline

Meta-analysis of organizational skills interventions for children and adolescents with Attention-Deficit/Hyperactivity Disorder.

Author(s): Bikic, Aida; Reichow, Brian; McCauley, Spencer A; Ibrahim, Karim; Sukhodolsky, Denis G

Source: Clinical psychology review; Mar 2017; vol. 52 ; p. 108-123

Abstract: BACKGROUND In addition to problems with attention and hyperactivity, children with ADHD present with poor organizational skills required for managing time and materials in academic projects. Organizational skills training (OST) has been increasingly used to address these deficits. We conducted a
systematic review and meta-analysis of OST in children with ADHD. OBJECTIVES The objective of this study was to systematically review the evidence of the effects of OST for children with ADHD for organizational skills, attention, and academic performance. METHODS We searched 3 electronic databases to locate randomized controlled trials published in English in peer-reviewed journals comparing OST with parent education, treatment-as-usual, or waitlist control conditions. Standardized mean difference effect sizes from the studies were statistically combined using a random-effects meta-analyses across six outcomes: teacher- and parent-rated organizational skills, teacher- and parent-rated inattention, teacher-rated academic performance, and Grade Point Average (GPA). Risk of bias was assessed for randomization, allocation concealment, blinding of participants and treatment personnel, blinding of outcome assessors, incomplete outcome data, and selective outcome reporting. RESULTS Twelve studies involving 1054 children (576 treatment, 478 control) were included in the meta-analyses. Weighted mean effect sizes for teacher- and parent-rated outcome measures of organizational skills were $g=0.54$ (95% CI 0.17 to 0.91) and $g=0.83$ (95% CI 0.32 to 1.34), respectively. Weighted mean effect sizes of teacher- and parent-rated symptoms of inattention were $g=0.26$ (95% CI 0.01 to 0.52) and $g=0.56$ (95% CI 0.38 to 0.74), respectively. Weighted standardized mean effect size for teacher-rated academic performance and GPA were $g=0.33$ (95% CI 0.14 to 0.51) and $g=0.29$ (95% CI 0.07 to 0.51), respectively. CONCLUSIONS OST leads to moderate improvements in organizational skills of children with ADHD as rated by teachers and large improvements as rated by parents. More modest improvements were observed on the ratings of symptoms of inattention and academic performance.

Database: Medline

Vitamin D Deficiency and a Blunted Parathyroid Hormone Response in Children with Attention-Deficit/Hyperactivity Disorder.

Author(s): Avcil, Sibel; Uysal, Pınar; Yılmaz, Mustafa; Erge, Duygu; Demirkaya, Sevcan K; Eren, Esra
Source: Clinical laboratory; Mar 2017; vol. 63 (no. 3); p. 435-443
Abstract: BACKGROUND Attention-deficit/hyperactivity disorder (ADHD) is the most frequently diagnosed neuropsychiatric disorder of childhood. The etiopathogenesis of ADHD has not been fully defined. Recent evidence has suggested a pathophysiological role of vitamin D deficiency in ADHD. In this study, we evaluated the serum levels of 25-hydroxy vitamin D (25(OH)D), parathyroid hormone (PTH), calcium (Ca), phosphate (P), and alkaline phosphatase (ALP) in children with ADHD. METHODS The study group consisted of 105 children diagnosed with ADHD according to DSM-IV-TR criteria. A control group, matched for age and gender, was composed of 95 healthy children. Venous blood samples were collected, and 25(OH)D, PTH, Ca, P, and ALP levels were measured. RESULTS The mean serum 25(OH)D, Ca, and P levels of the children with ADHD were significantly lower than those of the healthy controls. There were no significant differences between the groups regarding PTH and ALP. Serum PTH levels were found to be normal, but vitamin D deficiency, hypocalcemia, and hypophosphatemia were observed in children with ADHD. There was no correlation between serum PTH and Ca levels in children with ADHD, whereas, there was a negative correlation between serum PTH and Ca levels in healthy controls. There was no correlation between serum 25(OH)D and PTH levels in children with ADHD, whereas, there was a negative correlation between serum 25(OH)D and PTH levels in healthy controls. There were no significant differences in all parameters' levels among the subtypes of ADHD. CONCLUSIONS The findings suggest that ADHD is associated with vitamin D deficiency, blunted PTH response, and impaired Ca homeostasis in children.

Database: Medline

Executive Function Training for Children with Attention Deficit Hyperactivity Disorder.

Author(s): Shuai, Lan; Daley, David; Wang, Yu-Feng; Zhang, Jin-Song; Kong, Yan-Ting; Tan, Xin; Ji, Ning
Source: Chinese medical journal; vol. 130 (no. 5); p. 549-558
Abstract: BACKGROUND Accumulating evidence indicates that attention deficit hyperactivity disorder (ADHD) is associated with core deficits in executive function (EF) which predicts poorer academic and occupational functioning. This makes early intervention targeting EF impairments important to prevent long-term negative outcomes. Cognitive training is a potential ADHD treatment target. The present study aimed to explore the efficacy, feasibility, and acceptability of a cognitive training program (targeting child's multiple EF components and involving parent support in daily life), as a nonpharmacological intervention for children with ADHD. METHODS Forty-four school-age children with ADHD and their parents participated in 12 sessions of EF training (last for 12 weeks) and 88 health controls (HC) were also recruited. Training effects were explored using both neuropsychological tests (Stroop color-word test, Rey-Osterrieth complex figure test, trail making test, tower of Hanoi, and false-belief task) and reports of daily life (ADHD rating scale-IV,
Conners' parent rating scale, and behavior rating inventory of executive function (BRIEF) by analysis of paired sample t-test and Wilcoxon signed-rank test. The differences on EF performances between children with ADHD after training and HC were explored using multivariate analysis. RESULTS The results (before vs. after EF training) showed that after intervention, the children with ADHD presented better performances of EF both in neuropsychological tests (word interference of Stroop: 36.1 ± 14.6 vs. 27.1 ± 11.1, t = 4.731, P < 0.001; shift time of TMT: 194.9 ± 115.4 vs. 124.8 ± 72.4, Z = -4.639, P < 0.001; false-belief task: χ² = 6.932, P = 0.008) and reports of daily life (global executive composite of BRIEF: 148.9 ± 17.5 vs. 127.8 ± 17.5, t = 6.433, P < 0.001). The performances on EF tasks for children with ADHD after EF training could match with the level of HC children. The ADHD symptoms (ADHD rating scale total score: 32.4 ± 8.9 vs. 22.9 ± 8.2, t = 6.331, P < 0.001) and behavioral problems of the children as reported by parents also reduced significantly after the intervention. Participants reported that the EF training program was feasible to administer and acceptable. CONCLUSIONS The EF training program was feasible and acceptable to children with ADHD and parents. Although replication with a larger sample and an active control group are needed, EF training program with multiple EF focus and parent involving in real-life activities could be a potentially promising intervention associated with significant EF (near transfer) and ADHD symptoms improvement (far transfer).

Database: Medline

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**Sustained attention and heart rate variability in children and adolescents with ADHD.**

**Author(s):** Griffiths, Kristi R; Quintana, Daniel S; Hermens, Daniel F; Spooner, Chris; Tsang, Tracey W; Clarke, Simon; Kohn, Michael R

**Source:** Biological psychology; Mar 2017; vol. 124; p. 11-20

**Abstract:** The autonomic nervous system (ANS) plays an important role in attention and self-regulation by modulating physiological arousal to meet environmental demands. Core symptoms of ADHD such as inattention and behavioral disinhibition may be related to dysregulation of the ANS, however previous findings have been equivocal. We examined autonomic activity and reactivity by assessing heart rate variability (HRV) in a large sample of un-medicated children and adolescents (6-19 years) with ADHD (n=229) compared to typically-developing controls (n=244) during rest and sustained attention. Four heart rate variability measures were extracted: Root mean square of successive differences between inter-beat-intervals (rMSSD), absolute high frequency (HFA) power, absolute low frequency (LFA) power and ratio of low frequency power to high frequency power (LF/HF). There were no group differences in HFA or rMSSD, even when assessing across child and adolescent groups separately, by gender or ADHD subtype. LF/HF however was higher in ADHD during both rest and sustained attention conditions, particularly in male children. Sustained attention was impaired in ADHD relative to controls, and a higher LF/HF ratio during sustained attention was associated with poorer performance in both groups. Lower rMSSD and HFA were associated with higher anxiety, oppositional behaviors and social problems, supporting prevailing theories that these measures index emotion regulation and adaptive social behavior. Different measures of heart rate variability provide important insights into the sustained attention and emotional and behavioral regulation impairments observed in ADHD and may aid in delineating ADHD pathophysiology.

Database: Medline

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**Attention-Deficit/Hyperactivity Disorder in Offspring of Mothers With Inflammatory and Immune System Diseases.**

**Author(s):** Instanes, Johanne T; Halmøy, Anne; Engeland, Anders; Haavik, Jan; Furu, Kari; Klungsøyr, Kari

**Source:** Biological psychiatry; Mar 2017; vol. 81 (no. 5); p. 452-459

**Abstract:** BACKGROUND Prenatal inflammatory mechanisms may play a role in the pathogenesis of psychiatric disorders and could be relevant for attention-deficit/hyperactivity disorder (ADHD). We investigated maternal chronic somatic diseases with immune components as possible risk factors for ADHD in offspring. METHODS We performed a population-based nested case-control study by linking data from longitudinal Norwegian registers. We included all individuals born during the period 1967-2008 and alive at record linkage (2012). Individuals receiving ADHD medication during the years 2004-2012 were defined as patients with ADHD (N = 47,944), and all remaining individuals (N = 2,274,713) were defined as control subjects. The associations between maternal diseases and ADHD in offspring were analyzed using logistic regression models. RESULTS The following chronic diseases with immune components were related to ADHD in offspring: multiple sclerosis (adjusted odds ratio [OR] = 1.8; 95% confidence interval [CI] = 1.2-2.5), rheumatoid arthritis (adjusted OR = 1.7; 95% CI = 1.5-1.9), type 1 diabetes (adjusted OR = 1.6; 95%
CI = 1.3-2.0), asthma (adjusted OR = 1.5; 95% CI = 1.4-1.6), and hypothyroidism (adjusted OR = 1.2; 95% CI = 1.1-1.4). In contrast, chronic hypertension and type 2 diabetes showed no significant associations. Estimates were almost unchanged with additional adjustment for parental ADHD, infant birth weight, and gestational age. Although point estimates for male and female offspring were different for some diseases (e.g., maternal asthma [adjusted OR = 1.7; 95% CI = 1.5-1.8 for female offspring and adjusted OR = 1.5; 95% CI = 1.4-1.6 for male offspring]), none of the associations differed significantly by offspring sex.

CONCLUSIONS Several maternal somatic diseases with immune components were found to increase the risk of ADHD in offspring. The associations could involve several causal pathways, including common genetic predisposition and environmental factors, and increased insight into the mechanisms behind these relationships could enhance our understanding of the etiology of ADHD.

Database: Medline

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The descriptive epidemiology of DSM-IV Adult ADHD in the World Health Organization World Mental Health Surveys.

Author(s): Fayyad, John; Sampson, Nancy A; Hwang, Irving; Adamowski, Tomasz; Aguilar-Gaxiola, Sergio; Al-Hamzawi, Ali; Andrade, Laura H S G; Borges, Guilherme; de Girolamo, Giovanni; Florescu, Silvia; Gureje, Oye; Haro, Josep Maria; Hu, Chiyi; Karam, Elie G; Lee, Sing; Navarro-Mateu, Fernando; O’Neill, Siobhan; Pennell, Beth-Ellen; Piazza, Marina; Posada-Villa, José; Ten Have, Margreet; Torres, Yolanda; Xavier, Miguel; Zaslavsky, Alan M; Kessler, Ronald C; WHO World Mental Health Survey Collaborators

Source: Attention deficit and hyperactivity disorders; Mar 2017; vol. 9 (no. 1); p. 47-65

Abstract: We previously reported on the cross-national epidemiology of ADHD from the first 10 countries in the WHO World Mental Health (WMH) Surveys. The current report expands those previous findings to the 20 nationally or regionally representative WMH surveys that have now collected data on adult ADHD. The Composite International Diagnostic Interview (CIDI) was administered to 26,744 respondents in these surveys in high-, upper-middle-, and low-/lower-middle-income countries (68.5% mean response rate). Current DSM-IV/CIDI adult ADHD prevalence averaged 2.8% across surveys and was higher in high (3.6%)- and upper-middle (3.0%)- than low-/lower-middle (1.4%-)-income countries. Conditional prevalence of current ADHD averaged 57.0% among childhood cases and 41.1% among childhood subthreshold cases. Adult ADHD was significantly related to being male, previously married, and low education. Adult ADHD was highly comorbid with DSM-IV/CIDI anxiety, mood, behavior, and substance disorders and significantly associated with role impairments (days out of role, impaired cognition, and social interactions) when controlling for comorbidities. Treatment seeking was low in all countries and targeted largely to comorbid conditions rather than to ADHD. These results show that adult ADHD is prevalent, seriously impairing, and highly comorbid but vastly under-recognized and undertreated across countries and cultures.

Database: Medline

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Do Adult Attention Deficit Hyperactivity Disorder Quality-Of-Life (AAQoL) scale and the SF-36 scale measure the same construct of health-related quality of life?

Author(s): Zare, Roghaye; Jafari, Peyman; Ghanizadeh, Ahmad

Source: Attention deficit and hyperactivity disorders; Mar 2017; vol. 9 (no. 1); p. 39-45

Abstract: It has never been investigated whether the assessment tools of Adult Attention Deficit Hyperactivity Disorder Quality-of-Life (AAQoL) scale and the SF-36 measure the same construct. The participants were 101 parents of children with ADHD and 243 parents of school children. The parents completed both the Persian version of the AAQoL and the SF-36 questionnaires. The present study revealed that the Persian version of both AAQoL and SF-36 for the assessment of HRQoL in parents of children with ADHD has convergent and discriminant validity and internal consistency. Multitrait-multimethod correlation matrix showed that the domains of two questionnaires were moderately correlated. Current results support that AAQoL and SF-36 in parents of children with ADHD measure the same HRQoL constructs. Hence, for assessing the HRQoL of parents of children with ADHD, one of the two questionnaires can be used regard to the objective of study. The Persian version of the AAQoL loaded on four domains which were in line with the original version. HRQoL of parents of children with ADHD is markedly less than the community sample of children.

Database: Medline
Is there a difference between child self-ratings and parent proxy-ratings of the quality of life of children with a diagnosis of attention-deficit hyperactivity disorder (ADHD)? A systematic review of the literature.

Author(s): Galloway, Helen; Newman, Emily

Source: Attention deficit and hyperactivity disorders; Mar 2017; vol. 9 (no. 1); p. 11-29

Abstract: There are contemporary indicators that parent proxy-ratings and child self-ratings of a child's quality of life (QoL) are not interchangeable. This review examines dual informant studies to assess parent-child agreement on the QoL of children with attention-deficit/hyperactivity disorder. A systematic search of four major databases (PsycINFO, MEDLINE, EMBASE and Cochrane databases) was completed, and related peer-reviewed journals were hand-searched. Studies which reported quantitative QoL ratings for matched parent and child dyads were screened in accordance with relevant inclusion and exclusion criteria. Key findings were extracted from thirteen relevant studies, which were rated for conformity to the recommendations of an adapted version of the STROBE statement guidelines for observational studies. In the majority of studies reviewed, children rated their QoL more highly than their parents. There was some evidence for greater agreement on the physical health domain than psychosocial domains.

Database: Medline

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Attention, reward, and inhibition: symptomatic features of ADHD and issues for offenders in the criminal justice system.

Author(s): Berryessa, Colleen M

Source: Attention deficit and hyperactivity disorders; Mar 2017; vol. 9 (no. 1); p. 5-10

Abstract: Although the relationship between criminal activity and ADHD has been heavily studied, this paper reviews a largely neglected area of academic discourse: how symptoms of ADHD that often contribute to offending behavior may also potentially create further problems for offenders with ADHD after they come into contact with the criminal justice system and pilot their way through the legal process. The main symptoms of ADHD that are primarily connected to criminal offending are examined and contextualized with respect to diagnosed offenders' experiences with the justice system. Symptoms of ADHD, specifically reward deficiency, behavioral inhibition, and attention deficits, may affect whether individuals will be successful in their experiences in court, with probation, and during incarceration. This is especially true for individuals whose ADHD diagnoses are unknown to the criminal justice system or have never been formally diagnosed. Actors in the criminal justice need to be aware of the symptomatic features and behavioral patterns of offenders with ADHD in order to recognize and identify these offenders, and correspondingly, to refer them to mental health services. Recognizing that at least some of an offender's behavior may be related to symptoms of ADHD will help the criminal justice system better provide recommendations regarding sentencing, probation, and treatment provisions, as well as better ensure that offenders with ADHD have a more successful and just experience in their interactions with the criminal justice system.

Database: Medline

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Exploratory analysis of early treatment discontinuation and clinical outcomes of patients with attention-deficit/hyperactivity disorder.

Author(s): Wu, Sheng Hu; Wang, Ke; Chen, Yun; Wang, Wan Qi; Wang, Fan; Montgomery, William; Treuer, Tamas

Source: Asia-Pacific psychiatry: official journal of the Pacific Rim College of Psychiatrists; Mar 2017; vol. 9 (no. 1)

Abstract: INTRODUCTION This post-hoc analysis was to investigate the impact of treatment discontinuation on clinical outcomes in patients with attention-deficit/hyperactivity disorder (ADHD). METHODS Data are from a 12-month, observational, multinational study that included outpatients aged 6-17 years who were diagnosed with ADHD and treated with atomoxetine, methylphenidate, or nootropic agents. Treatment effectiveness and proportions of patients who discontinued treatment were compared between China and the other non-Western countries/regions combined. Propensity score matching was used to further estimate the association between treatment discontinuation and effectiveness. RESULTS Of the 546 patients who entered the study, 337 patients had complete data and were included in the analyses. Compared with the other countries/regions, China subgroup had a higher treatment discontinuation rate (odds ratio = 25.80; P < 0.0001) and poorer treatment effectiveness: least-
Database: Medline

The effects of risk factors on EEG and seizure in children with ADHD.

Author(s): Kartal, Ayşe; Aksoy, Erhan; Deda, Gülhis

Source: Acta neurologica Belgica; Mar 2017; vol. 117 (no. 1); p. 169-173

Abstract: Attention-deficit hyperactivity disorder (ADHD) is one of the most commonly seen developmental disorders in childhood. Its etiology, however, is not well known even though bio-psycho-social reasons have been thought to play a big role. The aims of this retrospective study are to identify the risk factors of ADHD in patients diagnosed with ADHD in childhood, analyze the relationship between clinical symptoms and risk factors to which they were exposed and determine their effects on prospective electrophysiological findings. Longitudinal cohort study of all children with ADHD treated at Ankara University Medical University during 2007-2012, with follow-up to ascertain risk factors and seizure and EEG abnormalities outcome. Multinominal univariate logistic regression analysis was used to calculate adjusted risk ratios (RRs) and 95% confidence intervals (CIs) for associations. Epileptiform discharges were found in 32 (22.9%) of the 140 ADHD patients. Of these, 71.9% had focal epileptiform discharges and 28.1% had generalized epileptiform discharges. The focal epileptiform discharges were most prevalent from the rolandic area. Among the 140 patients, 20 (14.3%) had a previous history of seizure, and all twenty had epileptiform discharges on EEG whereas none of the patients who had normal EEG had a seizure history. The rates of epileptiform discharges were significantly related to gestational age and asphyxia (RR: 1.8, 95% CI 0.3, 9.3; RR: 9.6, 95% CI 2.3, 40, respectively), whereas the rates of epilepsy were related to asphyxia but not gestational age. History of asphyxia and prematurity do seem to increase the risk of EEG abnormality in patients with ADHD. Modification of these environmental risk factors by evidence-based prevention programs may help to decrease the burden of ADHD.

Database: Medline

Anomalous subcortical morphology in boys, but not girls, with ADHD compared to typically developing controls and correlates with emotion dysregulation

Author(s): Seymour, Karen E.; Tang, Xiaoying; Crocetti, Deana; Mostofsky, Stewart H.; Miller, Michael I.; Rosch, Keri S.

Source: Psychiatry Research: Neuroimaging; Mar 2017; vol. 261 ; p. 20-28

Abstract: There has been limited investigation of volume and shape difference in subcortical structures in children with ADHD and a paucity of examination of the influence of sex on these findings. The objective of this study was to examine morphology (volume and shape) of subcortical structures and their association with emotion dysregulation (ED) in girls and boys with ADHD as compared to their typically-developing (TD) counterparts. Participants included 218 children ages 8–12 years old with and without DSM-IV ADHD. Structural magnetic resonance images were obtained, and shape analyses were conducted using large deformation diffeomorphic metric mapping (LDDMM). Compared to TD boys, boys with ADHD showed reduced volumes in the bilateral globus pallidus and amygdala. There were no volumetric differences in any structure between ADHD and TD girls. Shape analysis revealed localized compressions within the globus pallidus, putamen and amygdala in ADHD boys relative to TD boys, as well as significant correlations between increased ED and unique subregion expansion in right globus pallidus, putamen, and right amygdala. Our findings suggest a sexually dimorphic pattern of differences in subcortical structures in children with ADHD compared to TD children, and a possible neurobiological mechanism by which boys with ADHD demonstrate increased difficulties with ED.

Database: PsycINFO
Attention-Deficit/Hyperactivity Disorder and Phonological Working Memory: Methodological Variability Affects Clinical and Experimental Performance Metrics

Author(s): Tarle, Stephanie J.; Alderson, R. Matt; Patros, Connor H. G.; Lea, Sarah E.; Hudec, Kristen L.; Arrington, Elaine F.

Source: Neuropsychology; Mar 2017
Available in full text at Neuropsychology - from ProQuest

Abstract: Objective: Despite promising findings in extant research that suggest impaired working memory (WM) serves as a central neurocognitive deficit or candidate endophenotype of attention-deficit/hyperactivity disorder (ADHD), findings from translational research have been relatively underwhelming. This study aimed to explicate previous equivocal findings by systematically examining the effect of methodological variability on WM performance estimates across experimental and clinical WM measures. Method: Age-matched boys (ages 8–12 years) with (n = 20) and without (n = 20) ADHD completed 1 experimental (phonological) and 2 clinical (digit span, letter–number sequencing) WM measures. Results: The use of partial scoring procedures, administration of greater trial numbers, and high central executive demands yielded moderate-to-large between-groups effect sizes. Moreover, the combination of these best-case procedures, compared to worst-case procedures (i.e., absolute scoring, administration of few trials, use of discontinue rules, and low central executive demands), resulted in a 12.5% increase in correct group classification. Conclusion: Collectively, these findings explain inconsistent ADHD-related WM deficits in previous reports, and highlight the need for revised clinical procedures that utilize best-case procedures. (PsycINFO Database Record (c) 2017 APA, all rights reserved) (Source: journal abstract) Impact statement

Perception of emotional prosody in adults with attention deficit hyperactivity disorder

Author(s): Kis, B.; Guberina, N.; Kraemer, M.; Niklewski, F.; Dziobek, I.; Wiltfang, J.; Abdel-Hamid, M.

Source: Acta Psychiatrica Scandinavica; Mar 2017

Abstract: Objective Attention deficit hyperactivity disorder (ADHD) is associated with social conflicts. The purpose of this study was to explore domains of social cognition in adult patients with ADHD. Methods The assessment of social cognition was based on established neuropsychological tests: the Tübinger Affect Battery (TAB) for prosody and the Cambridge Behaviour Scale (CBS) for empathy. The performance of adults with ADHD (N = 28) was compared with the performance of a control group (N = 29) matched according to basic demographic variables. Results Treatment-naïve adults with ADHD showed deficits in emotional prosody (P = 0.02) and in the ability to empathize (P < 0.2). No gender differences concerning social cognitive skills were detected. Conclusions ADHD is associated with social cognition impairments involving both emotional prosody and empathy.

Database: PsycINFO

Parents of children with attention deficit/hyperactivity disorder: A meta-synthesis, part II

Author(s): Corcoran, Jacqueline; Schilt, Brent; Hochbrueckner, Rebecca; Abell, Julia

Source: Child & Adolescent Social Work Journal; Mar 2017

Abstract: In 2011 6.4 million children in the United States ages four to 17 years had a diagnosis of ADHD. Quantitative studies have indicated that parenting stress for parents of children diagnosed with ADHD is high. The purpose of the current meta-synthesis was to conduct a comprehensive review of both the published and unpublished qualitative studies involving the experience of parents raising children diagnosed with ADHD. Searches in online scholarly databases yielded an initial 1217 hits, which were narrowed down to eighty studies that met the criteria. A “meta-ethnography” framework was used for the synthesis. Results of the first part of the analysis were reported in Corcoran et al. (2016) and had to do with the personal impact on parents. The themes in Part II have to do with the processes parents go through in accepting the diagnosis of ADHD and in deciding whether their children should take medication. Parents
struggled to make sense of their child’s problems and came to terms with the diagnosis in a series of stages. Regarding medication use, parental attitudes varied greatly, with both costs and benefits noted. Though there was considerable ambivalence towards medication use, some parents reported relief after their child began using medication. Implications from this study are that providers should recognize the processes involved in making decisions about an ADHD diagnosis and the use of medication. Social workers should allow sensitive exploration of parents’ attributions and understanding of their children’s behavior and level of acceptance of the diagnosis. Keeping an ethical and critical stance toward the use of medication, social workers should also have full exploration with parents around the potential benefits and risks associated with the treatment of their children’s ADHD, taking into account parents’ preferences.

**Database:** PsycINFO

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**Comparative efficacy and safety of attention-deficit/hyperactivity disorder pharmacotherapies, including guanfacine extended release: A mixed treatment comparison**

**Author(s):** Joseph, Alain; Ayyagari, Rajeev; Xie, Meng; Cai, Sean; Xie, Jipan; Huss, Michael; Sikirica, Vanja

**Source:** European Child & Adolescent Psychiatry; Mar 2017

**Abstract:** This study compared the clinical efficacy and safety of attention-deficit/hyperactivity disorder (ADHD) pharmacotherapy in children and adolescents 6–17 years of age. A systematic literature review was conducted to identify randomized controlled trials (RCTs) of pharmacologic monotherapies among children and adolescents with ADHD. A Bayesian network meta-analysis was conducted to compare change in symptoms using the ADHD Rating Scale Version IV (ADHD-RS-IV), Clinical Global Impression–Improvement (CGI-I) response, all-cause discontinuation, and adverse event-related discontinuation. Thirty-six RCTs were included in the analysis. The mean (95% credible interval [CrI]) ADHD-RS-IV total score change from baseline (active minus placebo) was −14.98 (−17.14, −12.80) for lisdexamfetamine dimesylate (LDX), −9.33 (−11.63, −7.04) for methylphenidate (MPH) extended release, −8.68 (−10.63, −6.72) for guanfacine extended release (GXR), and −6.88 (−8.22, −5.49) for atomoxetine (ATX); data were unavailable for MPH immediate release. The relative risk (95% CrI) for CGI-I response (active versus placebo) was 2.56 (2.21, 2.91) for LDX, 2.13 (1.70, 2.54) for MPH extended release, 1.94 (1.59, 2.29) for GXR, 1.77 (1.31, 2.26) for ATX, and 1.62 (1.05, 2.17) for MPH immediate release. Among non-stimulant pharmacotherapies, GXR was more effective than ATX when comparing ADHD-RS-IV total score change (with a posterior probability of 93.91%) and CGI-I response (posterior probability 76.13%). This study found that LDX had greater efficacy than GXR, ATX, and MPH in the treatment of children and adolescents with ADHD. GXR had a high posterior probability of being more efficacious than ATX, although their CrIs overlapped.

**Database:** PsycINFO

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**Perceived social support in adults with autism spectrum disorder and attention-deficit/hyperactivity disorder**

**Author(s):** Alvarez-Fernandez, Sonia; Brown, Hallie R.; Zhao, Yihong; Raithel, Jessica A.; Bishop, Somer L.; Kern, Sarah B.; Lord, Catherine; Petkova, Eva; Di Martino, Adriana

**Source:** Autism Research; Mar 2017

**Abstract:** Perceived social support (PSS) has been related to physical and mental well-being in typically developing individuals, but systematic characterizations of PSS in autism spectrum disorder (ASD) are limited. We compared self-report ratings of the multidimensional scale of PSS (MSPSS) among age- and IQ-matched groups of adults (18–58 years) with cognitively high-functioning ASD (N = 41), or attention-deficit/hyperactivity disorder (ADHD; N = 69), and neurotypical controls (NC; N = 69). Accompanying group comparisons, we used machine learning random forest (RF) analyses to explore predictors among a range of psychopathological and socio-emotional variables. Relative to both ADHD and NC, adults with ASD showed lower MSPSS ratings, specifically for the friends subscale (MSPSS-f). Across ASD and ADHD, interindividual differences in autism severity, affective empathy, symptoms of anxiety related to social interactions, hyperactivity/impulsivity, and somatization best predicted MSPSS-f. These relationships did not differ between clinical groups. While group comparisons demonstrated greater impairment in individuals with ASD, analyzing individuals’ characteristics revealed cross-diagnoses similarities in regard to their MSPSS-f relationships. This is consistent with the Research Domain Criteria framework, supporting a trans-diagnostic approach as on the path toward "precision medicine."

**Database:** PsycINFO
A causal and mediation analysis of the comorbidity between attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD)

Author(s): Sokolova, Elena; Oerlemans, Anoek M.; Rommelse, Nanda N.; Groot, Perry; Hartman, Catharina A.; Glennon, Jeffrey C.; Claassen, Tom; Heskes, Tom; Buitelaar, Jan K.

Source: Journal of Autism and Developmental Disorders; Mar 2017

Abstract: Autism spectrum disorder (ASD) and Attention-deficit/hyperactivity disorder (ADHD) are often comorbid. The purpose of this study is to explore the relationships between ASD and ADHD symptoms by applying causal modeling. We used a large phenotypic data set of 417 children with ASD and/or ADHD, 562 affected and unaffected siblings, and 414 controls, to infer a structural equation model using a causal discovery algorithm. Three distinct pathways between ASD and ADHD were identified: (1) from impulsivity to difficulties with understanding social information, (2) from hyperactivity to stereotypic, repetitive behavior, and (3) a pairwise pathway between inattention, difficulties with understanding social information, and verbal IQ. These findings may inform future studies on understanding the pathophysiological mechanisms behind the overlap between ASD and ADHD

Database: PsycINFO

Exploring DSM-5 ADHD criteria beyond young adulthood: Phenomenology, psychometric properties and prevalence in a large three-decade birth cohort


Source: Psychological Medicine; Mar 2017; vol. 47 (no. 4); p. 744-754

Available in full text at Psychological Medicine - from ProQuest

Abstract: Background: There are still uncertainties on the psychometric validity of the DSM-5 attention deficit hyperactivity disorder (ADHD) criteria for its use in the adult population. We aim to describe the adult ADHD phenotype, to test the psychometric properties of the DSM-5 ADHD criteria, and to calculate the resulting prevalence in a population-based sample in their thirties. Method: A cross-sectional evaluation using the DSM-5 ADHD criteria was carried out in 3574 individuals from the 1982 Pelotas Birth Cohort. Through receiver operator curve, latent and regression analyses, we obtained parameters on construct and discriminant validity. Still, prevalence rates were calculated for different sets of criteria. Results: The latent analysis suggested that the adult ADHD phenotype is constituted mainly by inattentive symptoms. Also, inattention symptoms were the symptoms most associated with impairment. The best cut-off for diagnosis was four symptoms, but sensitivity and specificity for this cut-off was low. ADHD prevalence rates were 2.1% for DSM-5 ADHD criteria and 5.8% for ADHD disregarding age-of-onset criterion. Conclusions: The bi-dimensional ADHD structure proposed by the DSM demonstrated both construct and discriminant validity problems when used in the adult population, since inattention is a much more relevant feature in the adult phenotype. The use of the DSM-5 criteria results in a higher prevalence of ADHD when compared to those obtained by DSM-IV, and prevalence would increase almost threefold when considering current ADHD syndrome. These findings suggest a need for further refinement of the criteria for its use in the adult population.

Database: PsycINFO

Cloninger's personality dimensions and ADHD: A meta-analytic review

Author(s): Gomez, Rapson; Van Doorn, George; Watson, Shaun; Gomez, Andre; Stavropoulos, Vasileios

Source: Personality and Individual Differences; Mar 2017; vol. 107 ; p. 219-227

Abstract: A meta-analysis of up to 20 datasets is reported that examined the relationships between Cloninger's personality dimensions and Attention Deficit Hyperactivity Disorder (ADHD). Cloninger's model comprises four temperament (Novelty-Seeking, Harm-Avoidance, Reward Dependence, and Persistence) and three character (Self-Directedness, Cooperation, and Self-Transcendence) dimensions. Major findings were that all personality dimensions, except Self-Transcendence, were significantly associated with ADHD. These associations had different directions and magnitudes of relationship with ADHD. The associations were especially strong for Novelty-Seeking and Self-Directedness, being positive for Novelty-Seeking and negative for Self-Directedness. In addition, the association between ADHD and Persistence was moderated by age (stronger in children than adults) and source (stronger in clinical samples than community samples). Further, the association between harm avoidance and ADHD was moderated by age (strong and significant
in adults, but not significant in children). Findings are discussed in relation to past work and the different strengths of the associations found between Cloninger's personality dimensions and ADHD, developmental differences in these relationships, implications for theoretical models of ADHD, the influence of biological and environmental factors in the expression of ADHD, implications for treatment and diagnosis, and the underlying processes for the relationships between personality and ADHD.

**Database:** PsycINFO

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**Associations between autoimmune diseases and attention-deficit/hyperactivity disorder: A nationwide study**

**Author(s):** Nielsen, Philip Rising; Benros, Michael Eriksen; Dalsgaard, Søren

**Source:** Journal of the American Academy of Child & Adolescent Psychiatry; Mar 2017; vol. 56 (no. 3); p. 234-240

**Abstract:** Objective: Recent studies have suggested that autoimmune diseases and immune activation play a part in the pathogenesis of different neurodevelopmental disorders. This study investigated the association between a personal history and a family history of autoimmune disease and the risk of developing attention-deficit/hyperactivity disorder (ADHD). Method: A cohort was formed of all singletons born in Denmark from 1990 to 2007, resulting in a study population of 983,680 individuals followed from 1995 to 2012. Information on autoimmune diseases was obtained from the Danish National Hospital Register. Individuals with ADHD were identified through the Danish National Hospital Register and the Danish Psychiatric Central Register. Results: In total, 23,645 children were diagnosed with ADHD during the study period. Autoimmune disease in the individual was associated with an increased risk of ADHD by an incidence rate ratio of 1.24 (95% CI 1.10–1.40). The primary analyses associated maternal autoimmune disease with ADHD in the offspring (incidence rate ratio 1.12, 95% CI 1.06–1.19), whereas a paternal history of autoimmune diseases was not significantly associated with ADHD in the offspring. In exploratory analyses, an increased risk of ADHD was observed for children with a family history of thyrotoxicosis, type 1 diabetes, autoimmune hepatitis, psoriasis, and ankylosing spondylitis. Conclusion: A personal history and a maternal history of autoimmune disease were associated with an increased risk of ADHD. The previously reported association between type 1 diabetes and ADHD was confirmed. In addition, specific parental autoimmune diseases were associated with ADHD in offspring.

**Database:** PsycINFO

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**Autoimmunity as a risk factor for attention-deficit/hyperactivity disorder**

**Author(s):** Williams, Kyle

**Source:** Journal of the American Academy of Child & Adolescent Psychiatry; Mar 2017; vol. 56 (no. 3); p. 185-186

**Abstract:** Comments on an article by P. R. Nielsen et al. (see record 2017-08856-012). In this issue Nielsen et al. report on an association between autoimmune disease and ADHD in a nationwide cohort of children and their parents, identified through Danish national registries. This ambitious study analyzed the medical and psychiatric diagnoses of a birth cohort of more than 900,000 children, with follow-up, to identify a sample of more than 20,000 children diagnosed with ADHD in the follow-up timeframe. Personal or parental diagnoses of any of 30 selected autoimmune disorders, including autoimmune thyroiditis, type 1 diabetes, and inflammatory bowel disease, were investigated as risk factors for the subsequent development of ADHD in the child. Undoubtedly, the impact of neuroimmune interactions in psychiatric disorders will be better understood through continued investigation and maturation of our technologies for assessing these relationships. The current authors may not be far removed from the recognition that the clinical heterogeneity observed in some childhood psychiatric disorders may be, in part, the result of subtypes with predominantly immune-mediated etiologies. To that end, the study by Nielsen et al. provides further evidence that this path is worth pursuing.

**Database:** PsycINFO

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**Physician practices to prevent ADHD stimulant diversion and misuse**

**Author(s):** Colaneri, Natalie; Keim, Sarah; Adesman, Andrew

**Source:** Journal of Substance Abuse Treatment; Mar 2017; vol. 74; p. 26-34

**Abstract:** Background: Recent studies report that a significant number of adolescents misuse and divert prescription stimulants. As prescribers of these medications, physicians have a unique opportunity to help...
Employing a large sample of children from Dutch regular elementary schools, this study assessed the contributing and discriminating values of reading disability (RD) and attention-deficit/hyperactivity disorder (ADHD) to two types of phonological processing skills, phonemic awareness (PA) and rapid automatized naming (RAN). A second objective was to investigate whether comorbidity of RD and ADHD should be considered as an additive phenomenon as to RAN and PA. A total of 1,262 children, aged 8 to 13 years, were classified as RD (n = 121), ADHD (n = 17), comorbid (RD+ADHD; n =
Outcomes for adolescents who comply with long-term psychosocial treatment for ADHD

Author(s): Schultz, Brandon K.; Evans, Steven W.; Langberg, Joshua M.; Schoemann, Alexander M.

Source: Journal of Consulting and Clinical Psychology; Mar 2017; vol. 85 (no. 3); p. 250-261

Available in full text at Journal of Consulting and Clinical Psychology - from ProQuest

Abstract: Objective: We conducted a large (N = 216) multisite clinical trial of the Challenging Horizons Program (CHP)—a yearlong afterschool program that provides academic and interpersonal skills training for adolescents with attention-deficit/hyperactivity disorder. Intent-to-treat analyses suggest that, as predicted, the CHP resulted in significant reductions in problem behaviors and academic impairment when compared to community care. However, attendance in the CHP ranged from zero to 60 sessions, raising questions about optimal dosing. Method: To evaluate the impact of treatment compliance, complier average causal effect modeling was used to compare participants who attended 80% or more of sessions to an estimate of outcomes for comparable control participants. Results: Treatment compliers exhibited medium to large benefits (ds = 0.56 to 2.00) in organization, disruptive behaviors, homework performance, and grades relative to comparable control estimates, with results persisting 6 months after treatment ended. However, compliance had little impact on social skills. Conclusions: Students most in need of treatment were most likely to comply, resulting in significant benefits in relation to comparable control participants who experienced deteriorating outcomes over time. Difficulties relating to dose-response estimation and the potentially confounding influence of treatment acceptability, accessibility, and client motivation are discussed.) Impact statement What is the public health significance of this article?—The results of this study suggest that adolescents with attention-deficit/hyperactivity disorder who comply with long-term psychosocial treatments experience significant reductions in academic impairment when compared to comparable individuals who do not receive such treatment.

Database: PsycINFO
Evidence for increased behavioral control by punishment in children with attention-deficit hyperactivity disorder

Author(s): Furukawa, Emi; Alsop, Brent; Sowerby, Paula; Jensen, Stephanie; Tripp, Gail

Source: Journal of Child Psychology and Psychiatry; Mar 2017; vol. 58 (no. 3); p. 248-257

Abstract: Background: The behavioral sensitivity of children with ADHD to punishment has received limited theoretical and experimental attention. This study evaluated the effects of punishment on the response allocation of children with ADHD and typically developing children. Method: Two hundred and ten children, 145 diagnosed with ADHD, completed an operant task in which they chose between playing two simultaneously available games. Reward was arranged symmetrically across the games under concurrent variable interval schedules. Asymmetric punishment schedules were superimposed; responses on one game were punished four times as often as responses on the other. Results: Both groups allocated more of their responses to the less frequently punished alternative. Response bias increased significantly in the ADHD group during later trials, resulting in missed reward trials and reduced earnings. Conclusions: Punishment exerted greater control over the response allocation of children with ADHD with increased time on task. Children with ADHD appear more sensitive to the cumulative effects of punishment than typically developing children.

Database: PsycINFO
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