NEWSLETTER

INDICE:

ISTITUTO DI RICERCHE FARMACOLOGICHE MARIO NEGRI IRCCS

BIBLIOGRAFIA ADHD DICEMBRE 2018

Acad Pediatr. 2018.

UNMET NEED AND FINANCIAL IMPACT DISPARITIES FOR US CHILDREN WITH ADHD.

Nasol E, Lindly OJ, Chavez AE, et al.

Objective: The 5.1 million US children with attention-deficit/hyperactivity disorder (ADHD) have pronounced needs in education, occupational and speech therapy, and medical and behavioral treatments. Given known associations of ADHD diagnosis with race/ethnicity and parent education, this study aimed to assess how measures of socioeconomic status correlate with both adverse family financial impact of ADHD and disparities in unmet treatment need for ADHD.

Methods: Secondary analysis of children ages 8 to 17 years whose households participated in the 2014 National Survey of the Diagnosis and Treatment of Attention-Deficit/Hyperactivity Disorder and Tourette Syndrome. Using bivariate testing, we examined associations among measures of socioeconomic status with unmet ADHD treatment need and family financial impact. Logistic regression models estimated the odds of having unmet treatment need, adjusting for demographic factors and family financial impact.

Results: Among US school-aged children with a current ADHD diagnosis, 44.3% experienced an adverse family financial impact from ADHD, and 11.6% had unmet need for ADHD treatment. Children with younger age at first ADHD diagnosis were more likely to experience adverse family financial impact. Children from non-English-speaking households were less likely to report unmet need compared to those from primarily English-speaking households. The adjusted odds of unmet need were twice as great among those who reported adverse family financial impact.

Conclusion: Deeper understanding of the influence of the household language is important in ADHD needs assessments. Considering overall family financial circumstances may also be pertinent, particularly as children age, because earlier diagnosis was associated with adverse financial outcomes. These findings could shape future clinic policies for targeting community resources

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

Acta Paediatr Int J Paediatr. 2018.

MORE SEVERE INTELLECTUAL DISABILITY FOUND IN TEENAGERS COMPARED TO YOUNGER CHILDREN WITH DOWN SYNDROME.

Wester OU, et al.

Aim: We investigated the severities and profiles of intellectual disability (ID) in a population-based group of children with Down syndrome and related the findings to coexisting autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD).

Methods: There were about 100 children with Down syndrome living in Uppsala County, Sweden, at the time of the study who all received medical services from the same specialist outpatient clinic. The 60 children (68% male) were aged 5–17 years at inclusion: 41 were assessed within the study and 19 had test results from previous assessments, performed within three years before inclusion. We compared two age groups: 5–12 and 13–18 years old.

Results: Of the 60 children, 49 were assessed with a cognitive test and the 11 children who could not participate in formal tests had clinical assessments. Mild ID was found in 9% of the older children and in 35% of the younger children. Severe ID was found in 91% of the older children and 65% of the younger children. Verbal and nonverbal domains did not differ.

Conclusion: Intellectual level was lower in the older children and patients with Down syndrome need to be followed during childhood with regard to their ID levels

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American Journal of Neuroradiology. 2018;39:2140-47.

ABERRANT STRUCTURAL BRAIN CONNECTIVITY IN ADOLESCENTS WITH ATTENTIONAL PROBLEMS WHO WERE BORN PREMATURELY.

Tymofiyeva O, Gano D, Trevino RJ, et al.

BACKGROUND AND PURPOSE: Differences in structural brain connectivity that underlie inattention have been previously investigated in adolescents with attention deficit/hyperactivity disorder, but not in the context of premature birth, which is often associated with attentional problems. The purpose of this study was to identify the neural correlates of attentional problems in adolescents born prematurely and determine neonatal predictors of those neural correlates and attention problems.

MATERIALS AND METHODS: The study included 24 adolescents (12.5 -¦ 1.8 years of age; 12 girls, 12 boys) who were born prematurely and underwent MR imaging of the brain and cognitive assessment, both shortly after birth and as adolescents. Structural connectivity was assessed at adolescence using diffusion tensor imaging and tractography.

RESULTS: Of the 24 subjects, 12 had attention deficits. A set of axonal pathways connecting the frontal, parietal, temporal, and occipital lobes had significantly lower fractional anisotropy in subjects with attentional problems. The temporoparietal connection between the left precuneus and left middle temporal gyrus was the most significantly underconnected interlobar axonal pathway. Low birth weight and ventriculomegaly, but not white matter injury or intraventricular hemorrhageonneonatalMRimaging, predicted temporoparietal hypoconnectivity in adolescence. However, neither birth weight nor other neonatal characteristics were associated with attention deficits directly.

CONCLUSIONS: We identified an aberrant structural brain connectivity pattern, involving temporoparietal hypoconnectivity, in prematurely born adolescents with attentional problems. We also identified birth weight as a potential neonatal predictor of the temporoparietal hypoconnectivity. These findings add to our understanding of the neural basis and etiology of inattention in adolescents after premature birth

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Asia-Pacific Psychiatry. 2018.
METHYLPHENIDATE-INDUCED □Ç£MOVING EAR SYNDROME□ÇØ IN A CHILD WITH ADHD RESPONDING FAVORABLY TO ADD-ON PROPRANOLOL.
Naguy A, Alrashidi F, Elsori DH.

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Autism Res. 2018;11:1679-89.
SOCIAL DIFFICULTIES IN YOUTH WITH AUTISM WITH AND WITHOUT ANXIETY AND ADHD SYMPTOMS.
McVey AJ, Schiltz HK, Haendel AD, et al.
Social difficulties inherent to autism spectrum disorder are often linked with co-occurring symptoms of anxiety and attention deficit hyperactivity disorder (ADHD). The present study sought to examine the relation between such co-occurring symptoms and social challenges. Parents of adolescents with autism (N = 113) reported upon social challenges via the social responsiveness scale (SRS) and anxiety and ADHD symptomatology via the Child Behavior Checklist. Results revealed differences in SRS scores across co-occurring symptom subgroups (Anxiety, ADHD, Both, Neither)ΓÇönamely, adolescents with autism and anxiety as well as those with autism, anxiety, and ADHD showed greater scores on the SRS than the other groups. Implications for research and clinical practice are discussed and recommendations are offered. Autism Research 2018, 11: 1679ΓÇô1689. -® 2018 International Society for Autism Research, Wiley Periodicals, Inc. Lay Summary: Anxiety and attention deficit hyperactivity disorder (ADHD) symptoms are related to greater social challenges for adolescents with autism spectrum disorder. The present study found that autism with anxiety and autism with anxiety and ADHD, was related to greater social difficulties than autism alone. Findings provide further support for the intertwined nature of anxiety and ADHD symptoms in autism. What this may mean for research and clinical practice is considered and recommendations are suggested

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Basic Clin Neurosci. 2018;9:439-47.
RESEARCH PAPER: EARLY POSTERIOR NEGATIVITY AS FACIAL EMOTION RECOGNITION INDEX IN CHILDREN WITH ATTENTION DEFICITHYPERACTIVITYDISORDER.
Sarraf-Razavi M, Tehrani-Doost M, Ghassemi F, et al.
Introduction: Studies indicate that children with Attention Deficit Hyperactivity Disorder (ADHD) have deficits in social and emotional functions. It can be hypothesized that these children have some deficits in early stages of facial emotion discrimination. Based on this hypothesis, the present study investigated neural correlates of early visual processing during emotional face recognition in this group compared with typically developing children using the Event-Related Potentials (ERPs).
Methods: Nineteen boys between the ages of 7 and 11 years diagnosed with ADHD (Combined type) based on DSM-IV-TR classification were compared with 19 typically developing children matched on age and gender. The participants performed an emotional face recognition task while their brain activities were recorded using the event-related potentials procedure.
Results: A significant reduction in the Early Posterior Negativity (EPN) for happy and angry faces has been revealed in ADHD children compared to normal ones (P<0.05).
Conclusion: The present study supports the notion that individuals with ADHD have some impairments in early stage of emotion processing which can leading to their misinterpretation of emotion in faces

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Biol Psychol. 2019;140:131-40.

VALENCE, AROUSAL OR BOTH? SHARED EMOTIONAL DEFICITS ASSOCIATED WITH ATTENTION DEFICIT AND HYPERACTIVITY DISORDER AND OPPOSITIONAL/DEFIANT-CONDUCT DISORDER SYMPTOMS IN SCHOOL-AGED YOUTH.

Souroulla AV, Panteli M, Robinson JD, et al.

We examined emotional responses in Attention Deficit Hyperactivity and Oppositional Defiant/Conduct Disorder to affective pictures. Eighty seven children (42 female, Mage = 11.2), with clinical or subclinical symptoms and controls viewed joy, fear, sadness or neutral pictures while heart rate, skin conductance, corrugator and zygomaticus responses were recorded. The moderating role of Callous-Unemotional and anxiety traits was evaluated. Lower resting heart rate and decreased skin conductance across picture types was associated with ADHD symptoms. Decreased heart rate reactivity to fear and sad stimuli was associated with ADHD and ODD/CD. Corrugator and zygomaticus responses were not associated with ADHD or ODD/CD. Findings are mostly consistent with a fearlessness account of disruptive behavior, and seem to also pertain to ADHD, with intact valence systems. Findings are discussed in light of the significance of identifying common pathogenic mechanisms across traditional diagnostic categories, consistent with trans-diagnostic approaches to the study of psychopathology

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BMC Psychiatry. 2018;18.

EVALUATION OF THE DIAGNOSTIC IMPLICATIONS OF DAS-NAGLIERI COGNITIVE ASSESSMENT SYSTEM IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER.

Qin L, Liu H, Zhang H, et al.

Background: Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental characterized by attention deficit, hyperactivity, emotional impulses and difficulty with cognitive functions. The Das-Naglieri Cognitive Assessment System (DN: CAS), as a theory-driven assessment kit, was explored based on Planning, Attention, Simultaneous, and Successive Theory (PASS). Recent researches have tried to explore the sensitivity and specificity of DN: CAS in diagnosing ADHD; nevertheless, these studies were performed in a small study population. The following study explores the cognitive functions in ADHD by the DN: CAS and to evaluate the DN: CAS's diagnostic value in ADHD.

Methods: A total of 135 children with ADHD and 140 healthy controls were enrolled to evaluate cognitive function by the DN: CAS. ROC curve and the area under the curve (AUC) were applied to evaluate the diagnostic value of DN: CAS on ADHD.

Results: Compared with healthy controls, children with ADHD had significantly lower scores in Planning, Simultaneous (Verbal-Spatial Relations), Attention in the four Subtests of DN: CAS, as well as the total scores. ROC analysis indicated that Planning and Attention of DN: CAS had good classification accuracy in diagnosing ADHD with AUCs of 0.808 and 0.730, respectively.

Conclusions: The planning and attention assessment of DN: CAS revealed high sensitivity and specificity in diagnosing ADHD, thus suggesting that DN: CAS might be an effective tool in diagnosing ADHD

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BMC Psychiatry. 2018;18.

SEQUENTIAL TREATMENT OF ADHD IN MOTHER AND CHILD (AIMAC STUDY): IMPORTANCE OF THE TREATMENT PHASES FOR INTERVENTION SUCCESS IN A RANDOMIZED TRIAL.

Hautmann C, D+Âpfner M, Katzmann J, et al.

Background: The efficacy of parent-child training (PCT) regarding child symptoms may be reduced if the mother has attention-deficit/hyperactivity disorder (ADHD). The AIMAC study (ADHD in Mothers and Children) aimed to compensate for the deteriorating effect of parental psychopathology by treating the mother (Step 1) before the beginning of PCT (Step 2). This secondary analysis was particularly concerned with the additional effect of the Step 2 PCT on child symptoms after the Step 1 treatment.

Methods: The analysis included 143 mothers and children (aged 6-12 years) both diagnosed with ADHD. The study design was a two-stage, two-arm parallel group trial (Step 1 treatment group [TG]: intensive treatment of the mother including psychotherapy and pharmacotherapy; Step 1 control group [CG]:

supportive counseling only for mother; Step 2 TG and CG: PCT). Single- and multi-group analyses with piecewise linear latent growth curve models were applied to test for the effects of group and phase. Child symptoms (e.g., ADHD symptoms, disruptive behavior) were rated by three informants (blinded clinician, mother, teacher).
Results: Children in the TG showed a stronger improvement of their disruptive behavior as rated by mothers than those in the CG during Step 1 (Step 1: TG vs. CG). In the CG, according to reports of the blinded clinician and the mother, the reduction of children's disruptive behavior was stronger during Step 2 than during Step 1 (CG: Step 1 vs. Step 2). In the TG, improvement of child outcome did not differ across treatment steps (TG: Step 1 vs. Step 2).
Conclusions: Intensive treatment of the mother including pharmacotherapy and psychotherapy may have small positive effects on the child's disruptive behavior. PCT may be a valid treatment option for children with ADHD regarding disruptive behavior, even if mothers are not intensively treated beforehand.
Trial registration: ISRCTN registry ISRCTN73911400. Registered 29 March 2007

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BMJ Evidence-Based Medicine. 2018;23:A22.

APPLYING THE CHECKLIST FOR MODIFYING THE DEFINITION OF DISEASE TO ATTENTION DEFICIT/HYPERACTIVITY DISORDER (ADHD) AGE OF ONSET CRITERION (AOC).

Thomas R, Sanders S, Glasziou P, et al.

Objectives Widening disease definitions is a major driver of over-diagnosis. In response, the Preventing Overdiagnosis working group of the Guidelines International Network developed a checklist to provide guidance on issues to consider when modifying disease definitions. This checklist recommends panels outline definition changes and the trigger for change, and examine research informing the potential changes to prevalence, the prognostic ability and precision of the disease definition, the potential benefits and harms of the disease definition and balance between them. Using this checklist as a framework, we examined the documented considerations of the panel responsible for modifying the ADHD diagnostic criteria, focusing on the age of onset (AOC) criterion, which widened the definition by changing the requirement that symptoms causing impairment need to be present before the age of 7 (DSM-IV), to the presence of symptoms before age 12 (DSM-5).
Method For the checklist items requiring panels consult research studies (e.g. prevalence, prognosis, precision, benefit and harm), we examined the research considered by the panel modifying the DSM-IV ADHD AOC. We recorded the research studies identified by the panel and described how these informed their conclusions. We appraised these studies for risk of bias (ROB), and on their ability to address the checklist item (e.g. limitations in design and generalisability). We conducted searches to identify research that would have been available to the panel at the time of the modification and compared it to the research considered by the panel. We also identified studies related to checklist items published since the modification, assessed ROB, extracted data and compared the consistency of findings of these studies to the conclusions reached by the panel.
Results DSM-5 panel documentation cited two studies: a 'systematic literature review' of studies related to the AOC conducted by panel members (the methods of this study were not documented), and a longitudinal cohort study assessing prevalence. Cited within the review, were studies we assessed as related to some checklist items (precision, prognosis and benefit) however no reference to these constructs were reported in the document and no systematic appraisal of this research or comment on the strength of the evidence was provided. The cohort study reported 'negligible' change in prevalence. We appraised the ROB in the cohort study to be low, however, study design precluded confidence in the prevalence estimate, and subsequent research reported larger prevalence increases with AOC changes. We found overlap in the studies identified by the panel and the studies we identified as being available at the time which we assessed for ROB and strength of evidence.
Conclusions Minimal documentation of the considerations and decisions of the panel limits transparency and makes it impossible to judge the rigor of the process behind the modifications to ADHD diagnostic criteria. The information available suggests that rigorous consideration of important issues identified by the checklist did not occur, although this may be a problem of reporting. Panels modifying DSM ADHD diagnostic criteria comprise clinical and research leaders. Critical thinking and rigorous methods are their forte. Future changes

to DSM diagnostic criteria should ensure all process are documented clearly and rigorous appraisal of research used to support any further changes. Use of the checklist for modifying disease definitions would ensure a more thorough and transparent assessment of important issues prior to recommending changes, and that these changes can be more robustly supported

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Brain Imaging Behav. 2018.

ABERRANT WHITE MATTER PROPERTIES OF THE CALLOSAL TRACTS IMPLICATED IN GIRLS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER.

Lin Q, Bu X, Wang M, et al.

Aberrant microstructure of the callosal tracts has been found in boys with attention-deficit/hyperactivity disorder (ADHD). However, it is unclear whether the previously identified white matter (WM) alterations in boys with ADHD are also present in girls with ADHD. Thus, we applied diffusion tensor imaging (DTI) to investigate WM alterations in the callosal tracts in girls with ADHD. In this study, twenty-four adolescent girls (fourteen ADHD patients and ten typically developed girls) were recruited for high-resolution DTI. Automated fiber quantification of the callosum forceps major and the callosum forceps minor was then conducted. Diffusion parameters, including fractional anisotropy (FA), mean diffusivity (MD), radial diffusivity (RD) and axial diffusivity (AD), were calculated to investigate the microstructural integrity of the two callosal tracts. We also investigated correlations between diffusion properties and clinical measurements, including scores on ConnersΓÇÖ Parent Rating Scale, the Stroop Color-Word Test, the Wisconsin Card Sorting Test and the Continuous Performance Test, in ADHD patients and typically developed girls. Compared to typically developed adolescent girls, girls with ADHD had reduced FA values at nodes 59ΓÇô70 and increased RD values at nodes 60ΓÇô68 along the callosum forceps major. Lower FA values correlated with higher HyperactivityΓÇôImpulsivity scores and lower control quotients, while higher RD values correlated with lower control quotients. This study revealed the disruption of interhemispheric connectivity, particularly across the right side of the occipital CC tract, which might be involved in visual processes in girls with ADHD. These findings enhanced current knowledge about the neuropathological basis of female ADHD

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Can J Behav Sci. 2018 Dec.

USEFULNESS OF COGNITIVE TESTS TO PREDICT THE DIAGNOSIS OF ADHD PRESENTATION MIXED IN YOUNG PEOPLE AGED 8 TO 15 YEARS.

Perrault AC, Parent V, Guay MC.

Attentional and executive functions deficits are associated with combined type ADHD. Standardized tests have been developed to measure them. This study aims to document the predictive value of tests for the diagnosis of ADHD. This is a retrospective study with 125 youth aged 8 to 15 (M = 10.39, 30 girls and 95 boys) who seek help for adjustment problems. After their assessment, participants are divided into two groups, the ADHD group (n = 68) or the comparison group (n = 57), where ADHD is not suspected. The results show that three tests (1-cognitive inhibition, 2-inhibition of a motor response, 3-sustained attention) are most accurate in predicting an ADHD diagnosis. Discriminant analysis is meaningful and accounts for 57% of the variance. The results indicate that 79.3% of the participants were correctly classified, 80% in the ADHD group (sensitivity) and 78.4% in the comparison group (specificity). Therefore these tests are useful for predicting ADHD. These findings can be used by professionals to select tests for assessing ADHD. However, further studies should verify whether these tests contribute to the accuracy of diagnosis when using a multimodal approach that includes behavioral observation

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Child Neuropsychol. 2018.

WHICH COMPONENTS OF PROCESSING SPEED ARE AFFECTED IN ADHD SUBTYPES?

Kibby MY, Vadnais SA, Jagger-Rickels AC.

The term processing speed (PS) encompasses many components including perceptual, cognitive and output speed. Despite evidence for reduced PS in Attention-Deficit/Hyperactivity Disorder (ADHD), little is known about which component(s) is most impacted in ADHD, or how it may vary by subtypes. Participants included 151 children, ages 8-12 years, with ADHD Predominantly Inattentive Type, ADHD Combined Type and typically developing controls using DSM-IV criteria. All children completed four measures of processing speed: Symbol Search, Coding, Decision Speed, and simple reaction time. We found children with ADHD-PI and ADHD-C had slower perceptual and psychomotor/incidental learning speed than controls and that ADHD-PI had slower decision speed than controls. The subtypes did not differ on any of these measures. Mean reaction time was intact in ADHD. Hence, at a very basic output level, children with ADHD do not have impaired speed overall, but as task demands increase their processing speed becomes less efficient than controls. Further, perceptual and psychomotor speed were related to inattention, and psychomotor speed/incidental learning was related to hyperactivity/impulsivity. Thus, inattention may contribute to less efficient performance and worse attention to detail on tasks with a higher perceptual and/or psychomotor load; whereas hyperactivity/impulsivity may affect psychomotor speed/incidental learning, possibly via greater inaccuracy and/or reduced learning efficiency. Decision speed was not related to either dimension. Results suggest that PS deficits are primarily linked to the inattention dimension of ADHD but not exclusively. Findings also suggest PS is not a singular process but rather a multifaceted system that is differentially impacted in ADHD

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Child Health Care. 2018.

THE ROLE OF PARENTAL STRESS AND KNOWLEDGE OF CONDITION ON INCIDENCES OF BULLYING AND OSTRACISM AMONG CHILDREN WITH ADHD.

Taylor LA, Climie EA, Yue MWY.

This investigation explored the relation between parental stress and knowledge of Attention-Deficit/Hyperactivity Disorder (ADHD) on bullying and ostracism in children. Children diagnosed with ADHD have been shown to be more likely to be bullied than peers as well as being ostracized (Bastien, 2013; Fogleman et al., 2016; Taylor et al., 2010). Decreased parental stress and greater knowledge of ADHD are hypothesized to be associated with reduced reports of bullying and ostracism. Participants (n =29) completed measures assessing parental stress, knowledge of condition, and measures of victimization. Significant relationships were found among markers of parental stress and child's severity of inattention and hyperactivity. Parents of children who reported increased victimization were more likely to report increased parental stress. Finally, knowledge of ADHD was associated with reductions in incidences of being bullied and ostracized. Implications for practice and practitioners are discussed

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Chinese Journal of Endemiology. 2017;38:1183-86.

A TWIN STUDY OF GENETIC AND ENVIRONMENTAL INFLUENCES ON RELATIONSHIP BETWEEN ATTENTION DEFICIT AND ANXIETY/DEPRESSION IN CHILDREN AND ADOLESCENTS.

Wang S, Chen T, Ji C.

Objective: To understand the genetic and environmental influences on the relationship between attention deficit and anxiety/depression in children and adolescents.

Methods: A total of 1 062 same-sex twins aged 6-18 years were included in this study. A parent-rated child behavior checklist (CBCL) was used in the assessment. Software Mx was used to fit the univariate model of structural equation. The relationship between attention deficit and anxiety/depression was analyzed through bivariate genetic modeling.

Results: The genetic factor had influence on the relationship between attention deficit and anxiety/depression (rg=0.48). Shared and non-shared environmental correlation scores of attention deficit and anxiety/depression were 0.86 and 0.14 respectively.
Conclusion: Common genetic and shared environmental influences can explain the relationship between attention deficit and anxiety/depression in children and adolescents

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Clin Neurophysiol. 2019;130:e13.
ERP RECORDING SHOWS SUBCLINICAL DIFFERENCES IN ADHD PATIENTS WITH AND WITHOUT TUBEROUS SCLEROSIS.
Pro S, Moavero R, Marciano S, et al.
To investigate whether among children and adolescents with attention deficit and hyperactivity disorder (ADHD) those with Tuberous Sclerosis (TS) show specific abnormalities of event-related potentials (ERPs). We recruited 10 ADHD patients: 5 with TS (mean age: 12.6 ± 4.3 years) and 5 without TS (mean age: 11.6 ± 3 years). By using an oddball paradigm, auditory mismatch negativity (MMN) and P3b responses were recorded from Fz and Pz electrodes, respectively. All patients were administered with cognitive, executive functioning, and behavioural questionnaires. No difference was found in cognitive and executive functioning between two groups. The P3b amplitude was significantly higher in TS patients (15.6 ± 9 μV) than in children and adolescents without TS (5.5 ± 2.7 μV) ($p = 0.04$). The MMN amplitude was higher in TS patients (19 ± 18 μV) than in those without TS (9 ± 6.9 μV), although the difference was not significant ($p = 0.3$). Our results show that P3 and MMN amplitudes are higher in ADHD patients with TS than in those without TS. This means that among children and adolescents with ADHD involuntary and mostly voluntary attention capabilities are better in those with TS. Since this difference was not found by neuropsychological testing, ERP recording can be useful to unravel subclinical differences between two groups

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Cortex: A Journal Devoted to the Study of the Nervous System and Behavior. 2018 Dec;109:215-25.
INTACT AUTOMATIC MOTOR INHIBITION IN ATTENTION DEFICIT HYPERACTIVITY DISORDER.
Keute M, Krauel K, Heinze HJ, et al.
Hyperactivity and impulsivity are defining symptoms of attention-deficit hyperactivity disorder (ADHD), next to inattention. Hyperactive and impulsive behavior in ADHD is often thought to result from a deficit in inhibitory motor control. However, testing for such a deficit is complicated by coexisting deficits in ADHD, specifically an impairment in maintaining task set, e.g., due to inattention. Typical inhibition paradigms, such as Stop-signal, Go/NoGo or Flanker paradigms, are susceptible to a fundamental confound between inhibition and inattention because inhibition is an explicit goal in these tasks. We eliminate this confound by studying the negative compatibility effect (NCE), reflecting a core inhibitory function in the human motor system which, in healthy individuals, inhibits movements automatically, i.e., without deliberation or even conscious awareness. Our behavioral analysis, including Bayesian model comparison, as well as the time-course of the lateralized readiness potential (LRP), consistently show that this function is intact in children with ADHD compared to healthy controls, independent of the presence or absence of prominent hyperactive-impulsive symptoms. We conclude that hyperactivity and impulsivity in ADHD do not result from a low-level deficit in motor inhibition

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Cortex: A Journal Devoted to the Study of the Nervous System and Behavior. 2018 Dec;109:234-44.
DISTINCT TOPOLOGICAL PROPERTIES OF CUE-EVOKED ATTENTION PROCESSING NETWORK IN PERSISTERS AND REMITTERS OF CHILDHOOD ADHD.
Luo Y, Schulz KP, Alvarez TL, et al.
Attention deficit/hyperactivity disorder (ADHD) is a highly prevalent and impairing neurodevelopmental disorder that persists into adulthood in a sizeable portion of afflicted children. The persistence of ADHD elevates the risk for adverse outcomes that result in substantial individual and societal burden. The objective

of this study is to assess neurobiological substrates associated with variability of clinical outcomes in childhood ADHD, which has considerable value for the development of novel interventions that target mechanisms associated with recovery. A total of 36 young adults who were diagnosed with ADHD combined-type during childhood and 33 group-matched controls were involved in the study. Adults with childhood ADHD were further divided into 17 persisters and 19 remitters based on DSM-5 criteria. Functional magnetic resonance imaging data during a cue-evoked attention task were collected from each subject. The cue-evoked attention processing network was constructed using graph theoretic techniques. Network properties, including global-, local-, and nodal-efficiency, and network hubs were computed. Group comparisons of the network properties were conducted. Significantly lower nodal efficiency in right inferior frontal gyrus and reduced left side frontal-parietal functional interactions were observed in both remitters and persisters relative to the controls. The ADHD persisters showed a unique pattern of significantly lower nodal efficiency in right middle frontal gyrus (MFG) and hyper-interactions between bilateral MFG. This study suggests that right MFG functional impairments may relate to inactive fronto-parietal functional interactions for sensory and cognitive information processing and symptom persistence in young adults with childhood ADHD

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Dev Cognitive Neurosci. 2018.

NO EVIDENCE OF DIFFERENCES IN COGNITIVE CONTROL IN CHILDREN WITH AUTISM SPECTRUM DISORDER OR OBSESSIVE-COMPULSIVE DISORDER: AN FMRI STUDY.

Gooskens B, Bos DJ, Mensen VT, et al.

Repetitive behaviors are among the core symptoms of both Autism Spectrum Disorder (ASD) and Obsessive-Compulsive Disorder (OCD) and are thought to be associated with impairments in cognitive control. However, it is still unknown how deficits in cognitive control and associated neural circuitry relate to the quality or severity of repetitive behavior in children with these disorders. Therefore, we investigated the behavioral and neural correlates of cognitive control using a modified stop-signal task in a multicenter study of children (aged 8Γ Çô12 years) with ASD, OCD and typically developing (TD) children (N = 95). As both ASD and OCD have high levels of comorbidity with Attention Deficit/Hyperactivity Disorder (ADHD), we did an exploratory analysis addressing ADHD-symptoms. We found that children with ASD and OCD did not show deficits in cognitive control or changes in brain activity in task-relevant neural networks when compared to TD children. However, increased activity in prefrontal brain areas was associated with increased symptoms of comorbid ADHD. As such, this study does not support differences in cognitive control or associated neural circuitry in children with ASD and OCD, but rather suggests that changes in cognitive control in these disorders may be related to symptoms of comorbid ADHD

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Duzce Med J. 2018;20:81-86.

SLEEP PROBLEMS IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER.

Bozkurt A, et al.

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common neuropsychiatric disorders of childhood. ADHD; is a heterogeneous developmental disorder characterized by distraction, impulsivity, irritability and hyperactivity. Studies have shown that approximately 25-50% of children and adolescents with ADHD have sleep problems and have significantly more sleep problems than healthy controls. Studies in healthy children show that inadequate sleep causes attention and behavioral problems, impulsivity, and serious impairments in social and academic functioning. It was found that sleep problems were associated with increased risk for psychiatric problems. In ADHD patients, lifelong and personalized treatment strategies are needed for the treatment of sleep problems. Many patients with ADHD may present with primary sleep complaints, or many patients with sleep difficulties may present with ADHD complaints. Clinicians need interventions to manage both disorders. In this study, we focused on the most common sleep disorders in children with ADHD and their relation with media use and sleep as a popular subject were also investigated.

It is aimed to present the most recent studies on the prevalence of sleep problems in children with ADHD, the relationship with the clinic and treatment strategies and to shed light on some possible research areas

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Eesti Arst. 2015;94:71.

THE IMPACT OF EPILEPSY ON SOCIAL COMPETENCE AND COGNITIVE FUNCTION IN 7-12-YEAR-OLD CHILDREN .

Raud T, Saard M, Kaldoja M-L, et al.

INTRODUCTION AND AIM. Neurocognitive and social dysfunction arereported in children with epilepsy. An essential component of socialcompetence is the Theory of Mind (ToM)-the ability to understand themental state of others. The purpose of the study was to explore the influence of epilepsy on social competence and neurocognitive development.

METHOD. A total of 35 children with epilepsy (M = 10.46 yrs; SD =1.85): 10 with partial and 25 with generalized epilepsy and 30 controls (M= 10.26 yrs.; SD = 1.88) participated in the study. Mean onset of epilepsywas 9.1 yrs (SD = 2.08). Social competence was evaluated using ToMstories and the Social Cognition Questionnaire. Neurocognitive development was assessed using NEPSY battery. The results were analysed withSPSS Statistics 20.

RESULTS. Specific assessment showed significantly lower social cognition in children with epilepsy compared to healthy peers. As was the casewith the healthy children, the epilepsy group understood false belief storiesbetter than intentional lying and sarcasm ($p < .05$). Scores for intentionallying tests were higher than for the sarcasm test ($p < .05$), although all ofthe previous skills were delayed in development. The cognitive findingsin the epilepsy group showed specific deficit in attention, and in executive, verbal and fine motor skills ($p < .05$). Children with early epilepsyonset (before 9.1 years) had lower scores for intentional lying ($p < .05$).Lower social skills ($p < .05$) were also confirmed by parents' ratings.Remarkably, children with partial epilepsy outperformed children withgeneralized epilepsy in sarcasm ($p < .05$) and memory function ($p < .05$).

CONCLUSION. Children with epilepsy showed lower functioning insocial and overall neurocognitive performance. Especially vulnerable arechildren with early onset and generalized epilepsy. The results indicate theimportance of assessment of social and cognitive functions in everydayclinical practice. Special attention should be paid on the type of epilepsy

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Epilepsia. 2018;59:S291.

ESTIMATION OF FRONTAL LOBE ABSENCE EPILEPSY WITH ADHD.

Nakagawa E.

Background: Frontal lobe absence epilepsy has a incidence of comorbid the attention deficit hyperactivity disorder (ADHD), and suffer from a diagnosis and treatment with the seizure. We studied the electroencephalographic (EEG) findings and the effect of the antiepileptic drug for frontal lobe absence epilepsy with ADHD.

Methods: Subjects comprised patients with absence seizure and partial seizure with comorbidity of ADHD characterized with EEG findings of 3 Hz spike and waves in addition frontal localized paroxysmal discharge. This study was approved by the institutional review board.

Results: The male to female ratio between the total 15 patients who was 4 :11, and the ages of subjects ranged from 5 years to 23 years, mean age was 8 years. The EEG showed the symmetrical or asymmetrical spikes, sharp waves or spike and waves dominant in the frontal areas in addition to generalized 3 Hz spike and waves. Hyperventilation elicited the paroxysmal discharges in 6 patients. As for the seizure symptom, all patients presented complex partial seizures and secondary generalized seizure in addition to absence seizures. In the treatment of antiepileptic drugs, VPA 15 cases, LTG 9 cases, CZP 7 cases, LEV 4 cases, ESM 3 cases, CZP 3 cases, CBZ 2cases and TPM, ZNS, GBP, PER, LCM, PB for each one case were administered. The most effective combination was VPA and LTG, which improved in 6 cases. There are 7 cases of inattentive type ADHD, 8 cases of combination type ADHD, which were 8 cases effective with MPH or ATX additional treatment.

Conclusion: In cases of drug resistant of absence epilepsy, we should take the possibility of frontal lobe absence epilepsy into consideration, and recommend the combination of VPA and LTG drug treatment. We may administer the antipsychotic such as the anti ADHD medication in addition to environmental adjustment

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Epilepsia. 2018;59:S90.

PRENATAL VALPROATE EXPOSURE AND RISK OF ATTENTION DEFICIT HYPERACTIVITY DISORDER.

Sun Y, Pedersen L, Christensen J, et al.

Purpose: To determine whether prenatal exposure to valproate was associated with an increased risk of Attention Deficit Hyperactivity Disorder (ADHD) in the offspring.

Methods: Population-based cohort study of all singletons born alive in Denmark from 1 January1997 to 31 December 2011. We obtained information on prenatal exposure to antiepileptic drugs including valproate from the Danish Prescription Register, and identified all children with ADHD. Data was analysed by Cox regression adjusting for potential confounders (maternal age at conception, maternal psychiatric history, maternal diabetes, sex of the child, congenital malformations and parity). Children were followed from birth until the day of ADHD diagnosis, death, emigration or 31 December 2015, whichever came first.

Results: We identified 913,302 children among which 580 were exposed to valproate during pregnancy. In the cohort there were 29,445 persons with ADHD. Overall, the 580 children exposed to valproate prenatally had a 2-fold increased risk of ADHD (adjusted HR [aHR], 2.08 (95% Confidence Intervals (95% CI) 1.56-2.78)), compared to the 912,722 children unexposed to valproate. When restricting the cohort to the 7620 children born to women with epilepsy, valproate use during pregnancy (n = 516) was associated with a 39% higher risk of ADHD in children, (aHR, 1.39 (95% CI 1.00-1.94)) when compared with the risk in children born of mothers with epilepsy who did not use valproate during pregnancy (n = 7104).

Conclusions: Maternal use of valproate during pregnancy was associated with a small but increased risk of ADHD in the offspring even after adjusting for maternal psychiatric disease and epilepsy. The findings have important implications for the counseling of women of childbearing potential using valproate

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Epilepsia. 2018;59:S346.

DO ANTIEPILEPTIC DRUGS IMPROVE ADHD SYMPTOMS IN CHILDREN DIAGNOSED WITH ADHD ASSOCIATED WITH INTERICTAL EPILEPTIFORM DISCHARGES.

Socanski D, Herigstad A, Beneventi H.

Purpose: Investigate whether antiepileptic drugs (AEDs) would improve ADHD symptoms in children with ADHD and IEDs who have no previous history of epilepsy.

Method: Over a period of 6 years 505 children diagnosed with ADHD, age 5-14 years, performed routine awake EEG at ADHD assessment. 27 had EEG with IEDs without previous history of epileptic seizures (SZ). These patients (IED group) were matched on age and gender with 27 patients without IED (non-IED group). The IEDs index was estimated as percentage of time in three categories (0%, <1%, 1%). The response to treatment was considered positive if significant reduction in ADHD symptoms scores assessed with ADHD IV rating scale was found. Children from IED group were initially treated with AEDs for at least 6 months, and if no positive response had been achieved, they had opportunity to use methylphenidate (MPH). Children from non-IED group were initially treated with MPH.

Results: In the IED group 14 (51.9%) had focal IEDs, 12 (44.4%) showed generalized IEDs, and 1 (3.7%) had both. The majority 25/27 (92.6%) had short duration of IEDs, the IEDs index was <1%. There was no positive response observed to AED treatment in the IED group (10 cases were treated with AEDs). 24 of 27 (88.9%) children in the IED-group were treated with MPH, and positive response was achieved in 20/24 (83.3%). 25/27 (92.6%) cases from the non-IED group were treated with MPH, and positive effect was found in 22 (88%). Both groups had similar positive response to MPH. None of the children developed SZ during follow-up.

Conclusion: Our data did not support the use of AEDs as treatment for ADHD symptoms in children with ADHD and IEDs. ADHD children with and without IEDs had similar positive response to MPH

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Epilepsy Behav. 2018.

SHOULD PEDIATRIC NEUROLOGISTS PLAY A ROLE IN THE MANAGEMENT OF THE MOST COMMON PSYCHIATRIC COMORBIDITIES IN CHILDREN WITH EPILEPSY? PRACTICAL CONSIDERATIONS.

Dunn DW.

Child neurologists should provide initial care for the mental health problems of children and adolescents with epilepsy. Attention deficit hyperactivity disorder (ADHD), autism spectrum disorders are common comorbidities of childhood epilepsy. The psychotropic drugs used to treat mental health disorders can be safely employed in children with seizures. Child neurologists can diagnose common behavioral problems, should be comfortable with first-line agents to treat common psychiatric illnesses, and should recognize when support from psychologists or child and adolescent psychiatrists is needed

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Eur Child Adolesc Psychiatry. 2018.

MULTI-RATER DEVELOPMENTAL TRAJECTORIES OF HYPERACTIVITY IMPULSIVITY AND INATTENTION SYMPTOMS FROM 1.5 TO 17-YEARS: A POPULATION-BASED BIRTH COHORT STUDY.

Vergunst F, Tremblay RE, Galera C, et al.

The developmental course of hyperactivityΓÇôimpulsivity and inattention symptoms from infancy to adolescence has not been documented in a population sample. The aim of this study was to describe the developmental course of hyperactivityΓÇôimpulsivity and inattention symptoms from 1.5 to 17-áyears using multiple informants, and to identify perinatal risk factors associated with following elevated (high-risk) trajectories. Using a population-based birth cohort (n = 1374), symptom ratings from mothers (1.5ΓÇô8-áyears), teachers (6ΓÇô13-áyears) and participant self-reports (10ΓÇô17-áyears) were combined using group-based multi-trajectory modeling to identify informantsΓÇÖ convergence in identifying high-symptom trajectories of hyperactivityΓÇôimpulsivity and inattention over time. Perinatal risk factors associated with high-symptom trajectories were identified using stepwise logistic regression. The study found that symptoms of hyperactivityΓÇôimpulsivity broadly declined from 1.5 to 17-áyears while symptoms of inattention remained constant. 21.4% of participants followed elevated trajectories of hyperactivityΓÇôimpulsivity and 20.2% followed elevated trajectories of inattention; 11.6% followed elevated trajectories of both types of symptoms concurrently. Risk factors for high-risk trajectories of hyperactivityΓÇôimpulsivity were low maternal education, prenatal alcohol exposure, non-intact family, maternal depression, and low child IQ; for high-risk inattention they-áwere prenatal street drug exposure, early motherhood, low maternal education, maternal depression and low child IQ. Risk factors for trajectories of high-risk hyperactivityΓÇôimpulsivity and inattention concurrently were low maternal education, maternal depression, and low child IQ. The combination of longitudinal assessments from multiple informants (i.e., mother, teacher, participant-reports) provides a new way to characterize hyperactivityΓÇôimpulsivity and inattention phenotypes over time

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Eur Child Adolesc Psychiatry. 2018;27:1563-74.

ATTENTION AND EXECUTIVE FUNCTIONS COMPUTER TRAINING FOR ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD): RESULTS FROM A RANDOMIZED, CONTROLLED TRIAL.

Bikic A, Leckman JF, Christensen T+, et al.

Multicenter randomized clinical superiority single-blind trial investigated the effect of a computer training program targeting multiple cognitive functions. Seventy children with ADHD, aged 6-13, were randomized to intervention or control group. The intervention group used ACTIVATE™ for 8 weeks and both groups received treatment as usual and were assessed in regard to cognitive functions, symptoms, behavioral and

functional outcome measures after 8, 12 and 24 weeks. There was no significant effect on the primary outcome, sustained attention (β = - 0.047; CI - 0.247 to 0.153) or the secondary outcomes [parent-rated ADHD-RS, β = - 0.037; CI (- 0.224 to 0.150); teacher-rated-ADHD-RS, β = 0.093; CI (- 0.107 to 0.294); parent-rated-BRIEF, β = - 0.119; CI (- 0.307 to 0.069); and teacher-rated-BRIEF, β = 0.136; CI (- 0.048 to 0.322)]. This multicenter randomized clinical trial found no significant beneficial effects of cognitive training using the computer program ACTIVATE on the primary or secondary outcome measures in children with ADHD. Nevertheless, our study was likely underpowered to detect small to moderate changes.
Trial registration ClinicalTrials.gov: NCT01752530, date of registration: December 10, 2012

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Eur J Integr Med. 2019;25:28-33.

THE EFFECTS OF VITAMIN D SUPPLEMENTATION ON ADHD (ATTENTION DEFICIT HYPERACTIVITY DISORDER) IN 6-13 YEAR-OLD STUDENTS: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY.

Naeini AA, Fasihi F, Najafi M, et al.

Introduction: Attention Deficit Hyperactivity Disorder (ADHD) is a common mental disorder in children. Drug treatment is the most prevalent method used to control it; however, considering the low efficacy and frequent side effects of current drugs, more attempts are needed to replace them with safer agents. Several studies have shown the beneficial role of micronutrients such as vitamin D in development and improving the performance of neuronal system. This research intended to study the effects of vitamin D supplementation in 6ΓÇô13 year-old students with ADHD.
Methods: In this double-blind parallel clinical trial, the subjects were selected from among 6ΓÇô13 year-old students with ADHD diagnosed by a child psychiatry specialist. Vitamin D3 supplements (1000 IU) or placebo given daily to 70 subjects for three months. ADHD symptoms were evaluated before and after the intervention using Conners Parent Questionnaire (CPQ), the Strengths and Difficulties Questionnaire Teacher Version (SDQT), the Strengths and Difficulties Questionnaire Parent Version (SDQP) and Continuous performances Test (CPT) scores.
Results: The mean scores of the CPQ, SDQP and SDQT showed a significant difference in the two groups after intervention ($p < 0.05$). The impulsivity mean scores of the CPT after intervention showed statistical significance ($p = 0.002$), but the attention ($p = 0.11$) and mean reaction time ($p = 0.19$) mean scores did not.
Conclusions: Vitamin D supplementation not only improves some behavioral problems but may prevent exacerbation in some symptoms of the disorder and reduce impulsivity

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Fizyoterapi Rehabilitasyon. 2018;29:S31-S32.

THE INFLUENCE OF THE SENSORY PROFILE AND THE CAPACITY OF PHYSICAL ACTIVITY ON THE COMMUNITY PARTICIPATION OF THE CHILDREN WITH ATTENTION DEFICIT AND HIPERACTIVITY DISORDER.

Balci G, Atasavun US, Esen T.

Purpose: We aimed to assess the influence of the sensory profile and the capacity of physical activity on the community participation of the 8-10 aged, right hand dominated male children with attention deficit and hiperactivity disorder (ADHD).
Methods: We included children with ADHD, aged between 8-10 years and their healthy peers in the study. We used Dunn Sensory Profile to assess sensory profile, PAQ-c and 2 minutes walking test for the physical activity. CASP was used to assess community participation. Hand gripping assessed with Jamar Hand Dynamometer and Pinchmeter. Strength subtests of Bruininsk Oseretsky Motor Proficiency Test (BOT-2).
Results: We found high and positive correlation between the school participation and the fine motor factor (r=0.724, p=0.33), negative high correlations between the neighborhood and community participation and sedantery subtest of sensory profile test (r=-0.716, p=0.035), negative moderate correlations between the neighborhood and the community participation and visual affecting emotion activity level and sensory affecting emotion responses (r=-0.685, p=0.045 and r=-0.682, p=0.046) in the study group. We found negative correlation between the house paticipation and the sensory sensitivity (r=-0,808, p=0,014) and

positive correlation between the house participation and the subtests of BOT-2 (r=0.772, p=0.021) in control group.
Conclusion: We examined the sensory profile and the capacity of physical activity on the community participation of the children with attention deficit and hiperactivity disorder and their healthy peers and found a correlation between the sensory profile and the community participation. Since our study is still pilot study, we expect a relationship between physical activity and participation as the number of data increases

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Front Human Neurosci. 2018;12.

COGNITIVE CONTROL OVER VISUAL MOTION PROCESSING ARE CHILDREN WITH ADHD ESPECIALLY COMPROMISED? A PILOT STUDY OF FLANKER TASK EVENT-RELATED POTENTIALS.

Lange-Malecki B, Treue S, Rothenberger A, et al.

Performance deficits and diminished brain activity during cognitive control and error processing are frequently reported in attention deficit/hyperactivity disorder (ADHD), indicating a ΓÇ£top-downΓÇØ deficit in executive attention. So far, these findings are almost exclusively based on the processing of static visual forms, neglecting the importance of visual motion processing in everyday life as well as important attentional and neuroanatomical differences between processing static forms and visual motion. For the current study, we contrasted performance and electrophysiological parameters associated with cognitive control from two Flanker-Tasks using static stimuli and moving random dot patterns. Behavioral data and event-related potentials were recorded from 16 boys with ADHD (combined type) and 26 controls (aged 8ΓÇô15 years). The ADHD group showed less accuracy especially for moving stimuli, and prolonged response times for both stimulus types. Analyses of electrophysiological parameters of cognitive control revealed trends for diminished N2-enhancements and smaller error-negativities (indicating medium effect sizes), and we detected significantly lower error positivities (large effect sizes) compared to controls, similarly for both static and moving stimuli. Taken together, the study supports evidence that motion processing is not fully developed in childhood and that the cognitive control deficit in ADHD is of higher order and independent of stimulus type

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Front Psychol. 2018 Nov;9.

PROPRIOCEPTIVE INDICATORS OF PERSONALITY AND INDIVIDUAL DIFFERENCES IN BEHAVIOR IN CHILDREN WITH ADHD.

Liutsko L, Iglesias T, Tous Ral JM, et al.

Researchers have suggested that the link between personality traits and Attention-Deficit/Hyperactivity Disorder (ADHD) could be a crucial factor in understanding the disorder's diatheses. The aim of our study was to contribute to research on personality differences (based on fine motor precision—a novel approach) in children with and without ADHD symptoms. The Children Sustained Attention Task (CSAT) and Proprioceptive Diagnostics of Temperament and Character (DP-TC) were administered to children with an ADHD diagnosis and age-matched controls. Correlational and ANOVA analyses were performed to see the association between the results of both tests and the groups' performance. Correlational analysis suggests significant relationships between some personality dimensions (DP-TC) and correct detection in a sustained attention task (CSAT). Statistically significant differences were found between the groups on the personality dimensions (DP-TC), with the following characteristics for ADHD children: (a) temperamental tendency to pessimism; (b) high temperamental excitability; (c) high Emotionality, and (d) Behavioral Rigidity (meaning also less adaptation to changes in the environment, in temperament and character). Correct detection in the sustained attention test was significantly correlated with reaction time and the personality variables Style of Attention and Irritability. The results also showed high proprioceptive Emotionality and lack of emotional

control in children with ADHD. This is an exploratory study, investigating for the first time the differences in personality (based on fine motor precision) and the relation of personality traits to scores in sustained attention for children with and without ADHD

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Infant Ment Health J. 2018.

EARLY CHILDHOOD PREDICTORS OF BOYS ANTISOCIAL AND VIOLENT BEHAVIOR IN EARLY ADULTHOOD.

Sitnick SL, Gal+ín CA, Shaw DS.

Research on early childhood predictors of violent behaviors in early adulthood is limited. The current study investigated whether individual, family, and community risk factors from 18 to 42 months of age were predictive of violent criminal arrests during late adolescence and early adulthood using a sample of 310 low-income male participants living in an urban community. In addition, differences in trajectories of overt conduct problems (CP), hyperactivity/attention problems (HAP), and co-occurring patterns of CP and HAP from age 1-¢ to 10 years were investigated in regard to their relationship to violent and nonviolent behaviors, depression, and anxiety at age 20. Results of multivariate analyses indicated that early childhood family income, home environment, emotion regulation, oppositional behavior, and minority status were all significant in distinguishing violent offending boys from those with no criminal records. In addition, trajectories of early childhood CP, but not attention deficit hyperactivity disorder, were significantly related to self-reports of violent behavior, depressive symptoms, and anxiety symptoms. Implications for the prevention of early childhood risk factors associated with adolescent and adult violent behavior for males are discussed

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Iran J Psychiatr Behav Sci. 2018;12.

THE PREVALENCE OF ATTENTION DEFICIENT HYPERACTIVITY DISORDER AMONG IRANIAN CHILDREN: A META-ANALYSIS.

Yadegari N, Sayehmiri K, Azodi MZ, et al.

Context: Attention deficient hyperactivity disorder (ADHD), diagnosed in psychiatric outpatient clinics, is the most common psychiatric disorder among schoolchildren. The purpose of this study is to conduct a meta-analysis on subscales related to ADHD examined on schoolchildren. Moreover, it is tried to evaluate meta-analysis of ADHD and its subscales in primary school students in Iran.

Evidence Acquisition: Searching through the databases of Magiran, SID, Google Scholar, etc. a total of 16 articles were collected and weighted based on the number of cases and prevalence in binomial distribution. By using a random effects model meta-analysis (I2 = 96.5%), data were analyzed by the use of R and STATA software (version 11.2).

Results: In this analysis, 27 articles published between the years of 2001 and 2016 were used. The total sample size was 15124 students whose ages ranged from six to 14 years old. The prevalence of ADHD based on parents and teachers' consensus was 12% (CI 95%: 9.0 - 15), from parents' perspective 15.6% (CI 95%: 9.8 - 21.5), and from teachers' perspective 17.2% (CI 95%: 12.7 - 21.8). The subgroups' prevalence rates based on parents and teachers' consensus were as follows: Attention deficit (AD) = 4.2%, hyperactive impulsive (HI) = 4.1%, and combined type (CT) = 3.5%. ADHD was more prevalent in boys than girls (7.9% versus 5.5%).

Conclusions: The results indicated that the prevalence of ADHD among schoolchildren is moderate; therefore, considering the importance of students' mental health, the needs for identification, prevention, and treatment of high-risk groups by responsible institutions become obvious

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J Autism Dev Disord. 2018 Dec;48:4222-30.
EXPANDING THE CAPACITY OF PRIMARY CARE TO TREAT CO-MORBIDITIES IN CHILDREN WITH AUTISM SPECTRUM DISORDER.
Van CJ, Holifield C, Neumeyer AM, et al.
We examined barriers and facilitators to expanding primary care's capacity to manage conditions associated with autism spectrum disorder (ASD). We conducted semi-structured interviews with specialists, primary care providers (PCPs), primary care staff, and parents of children with ASD, discussing health/behavior problems encountered, co-management, and patient/family experience. Participants endorsed primary care as the right place for ASD-associated conditions. Specialists advising PCPs, in lieu of referrals, efficiently uses their expertise. PCPs' ability to manage ASD-associated conditions hinged on how behavioral aspects of ASD affected care delivery. Practices lacked ASD-specific policies but made individual-level accommodations and broader improvements benefitting children with ASD. Enhancing access to specialty expertise, particularly around ASD-associated behaviors, and building on current quality improvements appear important to expanding primary care

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JAMA. 2018 Dec;320:2599.
DIGITAL MEDIA USE AND ADHD SYMPTOMS.
Sibley MH, Coxe SJ.

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JAMA Pediatr. 2018.
SIBLING RECURRENCE RISK AND CROSS-AGGREGATION OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER AND AUTISM SPECTRUM DISORDER.
Miller M, Musser ED, Young GS, et al.
Importance: Attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) are believed to partially share genetic factors and biological influences. As the number of children with these diagnoses rises, so does the number of younger siblings at presumed risk for ADHD and ASD; reliable recurrence risk estimates within and across diagnoses may aid screening and early detection efforts and enhance understanding of potential shared causes.
Objective: To examine within-diagnosis sibling recurrence risk and sibling cross-aggregation of ADHD and ASD among later-born siblings of children with either disorder.
Design, Setting, and Participants: Using data extracted from medical records of 2 large health care systems in the United States, estimates of recurrence risk and cross-aggregation in later-born siblings of children with ADHD or ASD were compared with later-born siblings of children without these diagnoses. One data set included children seen between January 1, 1995, and December 31, 2013; the other included children born between January 1, 1998, and May 17, 2010. Participants included 15175 later-born siblings of children with ADHD, ASD, and no known diagnosis. The study was conducted from October 2, 2017, to August 14, 2018.
Main Outcomes and Measures: Diagnoses of ASD or ADHD in the later-born sibling, ascertained from medical records, were the primary outcomes of interest; moderators included sex, gestational age, and maternal age.
Results: A total of 15175 later-born siblings were classified by familial risk status based on the older child's diagnostic status: ADHD risk (n = 730; male [51.92%]), ASD risk (n = 158; male [48.10%]), and no known risk (n = 14 287; male [50.73%]). Compared with later-born siblings of children without ADHD or ASD, later-born siblings of children with ASD were more likely to be diagnosed with ASD (odds ratio [OR], 30.38; 95% CI, 17.73-52.06) or ADHD in the absence of ASD (OR, 3.70; 95% CI, 1.67-8.21). Compared with later-born siblings of children without a diagnosis, later-born siblings of children with ADHD were more likely to be diagnosed with ADHD (OR, 13.05; 95% CI, 9.86-17.27) or ASD in the absence of ADHD (OR, 4.35; 95% CI, 2.43-7.79).

Conclusions and Relevance: Later-born siblings of children with ASD or ADHD appear to be at elevated risk for the same disorder, but also of being diagnosed with the other disorder. These findings provide further support for shared familial mechanisms underlying ASD and ADHD, which may be useful for genetic and prospective developmental studies. Later-born siblings of children with ADHD or ASD should be monitored for both conditions

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J Abnorm Psychol. 2018 Dec.

ADHD REFLECTS IMPAIRED EXTERNALLY DIRECTED AND ENHANCED INTERNALLY DIRECTED ATTENTION IN THE IMMEDIATE FREE-RECALL TASK.

Gibson BS, Healey MK, Gondoli DM.

Previous attempts to understand the neurocognitive mechanisms underlying attention-deficit/hyperactivity disorder (ADHD) may be limited by the tendency to focus exclusively on 'externally directed cognition' (EDC) while ignoring 'internally directed cognition' (IDC; Dixon, Fox, & Christoff, 2014. There is clear evidence that ADHD reflects deficiencies in EDC because of weaknesses in modulatory, motivational, and cognitive control constructs, but little is currently known about the integrity of IDC in ADHD. In the present study, we used a verbal episodic memory task involving immediate free recall to assess the integrity of EDC and IDC in a sample of 111 adolescents, 50 with study-confirmed diagnoses of ADHD and 61 without. The ADHD group was found to have significantly worse scores on outcomes that depend on EDC during encoding (serial position), and significantly better scores on outcomes that depend on IDC during retrieval (lag-conditional response probabilities). In addition, model parameters estimating the contribution of EDC and IDC processes were fit to these data using the retrieved context model of memory search. The model suggested that, during encoding, the ADHD group had slower mental context drift, indicative of weaker externally directed attention to the list items, as well as deficiencies in their ability to allocate and sustain attention when the study list first appeared. During retrieval, in contrast, the model suggested that the ADHD group had faster mental context drift indicative of stronger internally directed attention to retrieved context. These findings provide novel evidence that ADHD reflects impaired EDC and enhanced IDC, and they reinforce the clinical relevance of distinguishing EDC and IDC in future studies. (PsycINFO Database Record (c) 2018 APA, all rights reserved) General Scientific Summary: Individuals can direct their attention to objects and events in the external world or to thoughts, feelings and memories in their 'internal' world. The present study distinguished between these two types of attention and showed that individuals with ADHD performed significantly worse than age-matched controls when the task required them to attend to stimuli in the external world, but these same individuals performed significantly better when the task required them to attend to memories retrieved from their internal world

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J Affective Disord. 2018 Dec;241:291-96.

ESTIMATED PREVALENCE AND ASSOCIATED RISK FACTORS OF ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AMONG MEDICAL COLLEGE STUDENTS IN A CHINESE POPULATION.

Shen Y, Chan BSM, Liu J, et al.

Background: To investigate the prevalence of attention deficit hyperactivity disorder (ADHD) among medical college students in a Chinese population.

Methods: A cross-sectional design was used to collect demographic data on participants and their symptoms of ADHD, anxiety, and depression. Data were collected through questionnaires filled out on a computer or through WeChat, a widely used social media app.

Results: The prevalence of ADHD among 5693 college students was 3.5% (3.02~3.98%). Individuals with ADHD showed higher scores on scales of anxiety and depression symptoms (both $p < 0.05$) than the general population. There was a significant difference in the prevalence of ADHD grouped by smoking, drinking, suicidal ideation, suicidal plans, suicidal attempt, anxiety and depression ($p < 0.05$). The odds ratio (OR) of ADHD was high for suicidal ideation, suicide plans, suicide attempts, anxiety and depression, with ORs of

5.901, 5.46, 6.011, 8.037 and 7.88, respectively. The ORs of suicidal behaviors for ADHD were decreased after adjusting for covariates such as drinking, smoking and depression.
Limitations: The sample was exclusively selected from three medical-related colleges, which might not be best representation of college students in China. Furthermore, majority of the participants were females.
Conclusions: ADHD remains a common disorder among Chinese medical college students and is significantly associated with suicidal behaviors, anxiety and depression. It is important to increase awareness and promote effective interventions to this particular population

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J Autism Dev Disord. 2018.
BRIEF REPORT: PILOT STUDY OF A NOVEL INTERACTIVE DIGITAL TREATMENT TO IMPROVE COGNITIVE CONTROL IN CHILDREN WITH AUTISM SPECTRUM DISORDER AND CO-OCCURRING ADHD SYMPTOMS.
Yerys BE, Bertollo JR, Kenworthy L, et al.
The presence of attention deficit/hyperactivity disorder (ADHD) symptoms in children with autism spectrum disorder (ASD) is associated with worse cognitive control. Children with ASD and ADHD often respond poorly to medications, thus we need alternative treatments. We examined the feasibility, acceptability, and preliminary efficacy of Project EvoΓÇöa digital treatment. Nineteen children with ASD and co-occurring ADHD symptoms completed this app-based treatment that targets multi-tasking through gameplay versus a comparison educational treatment. Children had a high engagement with both treatments, and parents and children reported high acceptability. Within-group analyses suggest the multi-tasking but not the educational treatment may improve cognitive control. This multi-tasking treatment is feasible, acceptable, and possibly efficacious for cognitive control impairments in children with ASD and ADHD

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J Child Adolesc Psychopharmacol. 2018;28:727-38.
ATTENTION-DEFICIT/HYPERACTIVITY DISORDER-RELATED DEFICITS AND PSYCHOSTIMULANT MEDICATION EFFECTS ON COMPREHENSION OF AUDIOVISUALLY PRESENTED EDUCATIONAL MATERIAL IN CHILDREN.
Orban SA, Karamchandani TA, Tamm L, et al.
Objective: We aimed to (1) examine differences in observed visual attention and motor activity, as well as comprehension of a science video between children with and without attention-deficit/hyperactivity disorder (ADHD) and (2) explore if psychostimulant medication improves ADHD behaviors and comprehension of a science video in children with ADHD.
Method: Children aged 7-11 with (n = 91) and without (n = 45) ADHD watched a science video and then completed a comprehension test. Then, children with ADHD began a 4-week within-subject, randomized, double-blind crossover trial of methylphenidate (MPH). At post-testing, children were randomized to receive placebo or their optimal dosage, watched another science film, and completed a comprehension test.
Results: Children with ADHD exhibited higher rates of motor activity during, and worse comprehension of material discussed within, the science video. Mediation models revealed that increased motor activity suppressed between-group differences in comprehension. MPH improved comprehension and visual attention, but not motor activity during the science video.
Conclusion: Children with ADHD may benefit from MPH to improve comprehension of and sustained attention during audiovisually presented learning material

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J Child Adolesc Psychopharmacol. 2018;28:690-98.
CHANGES IN SLEEP PROBLEMS ACROSS ATTENTION-DEFICIT/HYPERACTIVITY DISORDER TREATMENT: FINDINGS FROM THE MULTIMODAL TREATMENT OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER STUDY.
Ricketts EJ, Sturm A, McMakin DL, et al.
Objective: Stimulant medication and behavior therapy are efficacious for youth with attention-deficit/hyperactivity disorder (ADHD). However, research suggests that stimulants may start and/or worsen

sleep problems for youth. Further, the impact of behavior therapy for ADHD on sleep is unknown. This study examined the frequency of sleep problems and effects of stimulant medication, behavior therapy, and their combination on sleep problems in youth with ADHD. This study also explored the influence of dimensional baseline ratings of ADHD symptom subtype and psychiatric comorbidity on sleep outcomes.
Methods: Participants were 576 children (aged 7-9 years) with ADHD-Combined type from the Multimodal Treatment of ADHD study that compared methylphenidate, behavior therapy, and their combination to community care. Before treatment, parents completed the Child Behavior Checklist used to derive a total sleep problems score. Parents also completed ratings of oppositionality and ADHD symptom severity, whereas youth completed ratings of depression and anxiety. These ratings were readministered after treatment.
Results: General linear mixed-effects models were used to assess change in total sleep problems across treatment. The combined group exhibited a statistically significant reduction in total sleep problems ($z = -5.81$, $p < 0.001$). Reductions in total sleep problems in methylphenidate ($z = -3.11$, $p = 0.05$), behavior therapy ($z = -2.99$, $p = 0.08$), or community care ($z = -1.59$, $p > 0.99$) did not reach statistical significance. Change in psychiatric symptoms did not significantly moderate change in total sleep problems by treatment assignment. Greater baseline oppositional defiant disorder severity predicted less reduction in total sleep problems, ¤ç2(1) = 3.86, $p < 0.05$.
Conclusions: Findings suggest that combination of methylphenidate and behavior therapy is efficacious for reducing parent-reported sleep problems in young children with ADHD-Combined type relative to community care. However, potential ameliorative effects of monotherapy treatments (i.e., methylphenidate, behavior therapy) should be examined. Future replication is needed to confirm findings

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J Child Adolesc Psychopharmacol. 2018;28:676-81.
EFFECTS OF LONG-TERM USE OF PRESCRIPTION METHYLPHENIDATE ON MYOCARDIAL PERFORMANCE IN CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A TISSUE DOPPLER IMAGING STUDY.
Kara T, Mutlu MA, Yllmaz S, et al.
Objective: Many children diagnosed with attention-deficit/hyperactivity disorder are treated with methylphenidate (MPH). The purpose of this study was to evaluate the relationship between long-term use of osmotic-release oral system methylphenidate (OROS MPH) and cardiac functions.
Methods: The study involved 116 subjects 6-18 years of age. Fifty-eight of these were in the case group and were using OROS MPH (extended-release capsules). Fifty-eight children not receiving treatment were included in the control group. Participants were also assessed using 12-channel electrocardiography (ECG), transthoracic 2D echocardiography, Doppler echocardiography, and tissue Doppler imaging (TDI). The findings obtained were compared using statistical methods.
Results: No significant differences were determined between the case and control groups in terms of systolic blood pressure and diastolic blood pressure or 12-channel ECG findings. There was also no difference in 2D and M-mode measurements among the echocardiography findings. Of the TDI parameters obtained, only E septal values differed significantly between the case and control groups. However, this was not at such a level as to indicate cardiac function impairment.
Conclusions: The study data showed that the echocardiographic parameters we measured resulted in no clinical difference between the children using MPH and the healthy controls. We conclude that MPH use in children does not impair cardiovascular functions at short-term follow-up

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J Clin Sleep Med. 2016;12:933.
A REPLY TO SLEEP CHARACTERISTICS IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER: SYSTEMATIC REVIEW AND META-ANALYSES.
Fluegge K.

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J Comp Eff Res. 2019;8:33-44.

VALIDITY AND RELIABILITY OF THE DUNDEE DIFFICULT TIMES OF THE DAY SCALE IN CHINESE CHILDREN AND ADOLESCENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER.

Du Y, Zheng Y, Ke X, et al.

Methods: A cross-sectional study enrolled 200 children and adolescents with attention-deficit/hyperactivity disorder visiting four Chinese tertiary care psychiatric clinics to assess the validity and reliability of the Dundee difficult times of the day scale (D-DTODS), using the Weiss functional impairment rating scale for parents form (WFIRS-P) and the Swanson, Nolan and Pelham, version IV 26-item teacher and parent rating scale (SNAP-IV-26).

Results: The calculated Cronbach's for the D-DTODS total score was 0.793. The calculated Spearman's correlation coefficients for D-DTODS versus WFRIS-P and Swanson, Nolan and Pelham, version IV 26-item teacher and parent rating scale (SNAP-IV-26) were 0.425 ($p < 0.01$) and 0.452 ($p < 0.001$), respectively.

Conclusion: The D-DTODS was worth future test-retest confirmation regarding reliability and validity for assessing functional impairment associated with attention-deficit/hyperactivity disorder across different time periods of the day in Chinese children and adolescents

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J Consult Clin Psychol. 2018 Dec;86:964-79.

CAN WORKING MEMORY TRAINING WORK FOR ADHD? DEVELOPMENT OF CENTRAL EXECUTIVE TRAINING AND COMPARISON WITH BEHAVIORAL PARENT TRAINING.

Kofler MJ, Sarver DE, Austin KE, et al.

Objective: Working memory deficits have been linked experimentally and developmentally with attention-deficit/hyperactivity disorder (ADHD)-related symptoms/impairments. Unfortunately, substantial evidence indicates that extant working memory training programs fail to improve these symptoms/impairments. We hypothesized that this discrepancy may reflect insufficient targeting, such that extant protocols do not adequately engage the specific working memory components linked with the disorder's behavioral/functional impairments.

Method: The current study describes the development, empirical basis, and initial testing of central executive training (CET) relative to gold-standard behavioral parent training (BPT). Children with ADHD ages 8–13 ($M = 10.43$, $SD = 1.59$; 21 girls; 76% Caucasian/non-Hispanic) were treated using BPT ($n = 27$) or CET ($n = 27$). Detailed data analytic plans for the pre/post design were preregistered. Primary outcomes included phonological and visuospatial working memory, and secondary outcomes included actigraphy during working memory testing and two distal far-transfer tasks. Multiple feasibility/acceptability measures were included.

Results: The BPT and CET samples did not differ on any pretreatment characteristics. CET was rated as highly acceptable by children and was equivalent to BPT in terms of feasibility/acceptability as evidenced by parent-reported high satisfaction, low barriers to participation, and large ADHD symptom reductions. CET was superior to BPT for improving working memory (Group × Time $d = 1.06$) as hypothesized. CET was also superior to BPT for reducing actigraph-measured hyperactivity during visuospatial working memory testing and both distal far-transfer tasks (Group × Time $d = 0.74$).

Conclusions: Results provide strong support for continued testing of CET and, if replicated, would support recent hypotheses that next-generation ADHD cognitive training protocols may overcome current limitations via improved targeting.

What is the public health significance of this article?—This study describes the development of central executive training (CET) and compares it with gold-standard behavioral parent training (BPT) for attention-deficit/hyperactivity disorder. Results suggest that CET is feasible and acceptable to families and may be superior to BPT for improving working memory and hyperactivity

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Journal of Men's Health. 2017;13:e1-e7.

EFFECTS OF 4 WEEKS OF HORSEBACK RIDING ON ANXIETY, DEPRESSION, AND SELF ESTEEM IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER.

So W-Y, Lee S-Y, Park Y, et al.

Background and Objective There is no report on the effects of horseback riding on children with attention deficit hyperactivity disorder (ADHD). Therefore, the purpose of this study was to determine the effects of 4 weeks of horseback riding on anxiety, depression, self esteem, attention, and learning disorder in children with ADHD.

Materials and Methods Subjects comprised a convenience sample of 10 children aged 10-12 years with ADHD and 10 children without ADHD. Horseback riding sessions were performed 2 times (40 minutes/day) per week for 4 weeks. Before and after the horseback riding program, we measured the children's anxiety, depression, self esteem, attention, and learning disorder. The pre-test and post-test scores were analyzed with repeated-measures analysis of variance.

Results After participating in the 4-week horseback riding program, anxiety ($p = 0.013$), depression ($p = 0.007$), attention ($p < 0.001$), and learning disorder ($p < 0.001$) were significantly improved in the ADHD group compared to the normal group. However, self esteem was not significantly different between the 2 groups ($p = 0.096$).

Conclusion These results indicate that the 4-week horseback riding program used in this study was very effective for significantly improving anxiety, depression, and attention in children with ADHD

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Journal of Mind and Behavior. 2018;39:205-28.

BROKEN BRAINS OR FLAWED STUDIES? AN UPDATE ON LEO AND COHEN'S CRITICAL REVIEW OF ADHD NEUROIMAGING.

Marley C, OΓÇÖLeary AM, Nikopoulou V-A.

This systematic review sought to examine neuroimaging results on Attention Deficit Hyperactivity Disorder (ADHD) published between 2003 and 2015, paying special attention to the major confound of prior medication use first brought to attention by Leo and Cohen (2003) and subsequently acknowledged in the ADHD literature. Neuroimaging studies comparing children and adolescents with ADHD were identified through searches in Web of Science (BIOSIS, Web of Science Core Collection, MEDLINE), PsychINFO, and EMBASE. All studies focusing on neuroimaging and ADHD were selected for consideration (n=62). Forty studies (64.5%) still included pre-medicated samples despite the confound and eight studies (13%) did not provide information to determine this, leaving only 14 studies with medication-free participants to be analysed. The findings on reported differences in physical systems and in electrical activation between ADHD participants and controls were inconsistent and, in part, short on methodological rigour. Despite technological advances, the current state of research suggests that the understanding of neurobiological underpinnings of ADHD and the significance of that research for individuals diagnosed with ADHD has not advanced since the Leo and Cohen review

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J Neurodevelopmental Disord. 2018;10.

ADHD-RELATED SEX DIFFERENCES IN FRONTO-SUBCORTICAL INTRINSIC FUNCTIONAL CONNECTIVITY AND ASSOCIATIONS WITH DELAY DISCOUNTING.

Rosch KS, Mostofsky SH, Nebel MB.

Background: Attention-deficit/hyperactivity disorder (ADHD) is associated with atypical fronto-subcortical neural circuitry and heightened delay discounting, or a stronger preference for smaller, immediate rewards over larger, delayed rewards. Recent evidence of ADHD-related sex differences in brain structure and function suggests anomalies in fronto-subcortical circuitry may differ among girls and boys with ADHD. The current study examined whether the functional connectivity (FC) within fronto-subcortical neural circuitry differs among girls and boys with ADHD compared to same-sex typically developing (TD) controls and relates to delay discounting.

Methods: Participants include 8-12-year-old children with ADHD (n = 72, 20 girls) and TD controls (n = 75, 21 girls). Fronto-subcortical regions of interest were functionally defined by applying independent component analysis to resting-state fMRI data. Intrinsic FC between subcortical components, including the striatum and amygdala, and prefrontal components, including ventromedial prefrontal cortex (vmPFC), anterior cingulate cortex (ACC), and anterior dorsolateral prefrontal cortex (dlPFC), was compared across diagnostic groups overall and within sex. Correlations between intrinsic FC of the six fronto-subcortical pairs and delay discounting were also examined.
Results: Both girls and boys with ADHD show atypical FC between vmPFC and subcortical regions including the striatum (stronger positive FC in ADHD) and amygdala (weaker negative FC in ADHD), with the greatest diagnostic effects among girls. In addition, girls with ADHD show atypical intrinsic FC between the striatum and dlPFC components, including stronger positive FC with ACC and stronger negative FC with dlPFC. Further, girls but not boys, with ADHD, show heightened real-time delay discounting. Brain-behavior correlations suggest (1) stronger negative FC between the striatal and dlPFC components correlated with greater money delay discounting across all participants and (2) stronger FC between the amygdala with both the dlPFC and ACC components was differentially related to heightened real-time discounting among girls and boys with and without ADHD.
Conclusions: Our findings suggest fronto-subcortical functional networks are affected in children with ADHD, particularly girls, and relate to delay discounting. These results also provide preliminary evidence of greater disruptions in fronto-subcortical FC among girls with ADHD that is not due to elevated inattention symptom severity, intellectual reasoning ability, age, or head motion

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Journal of Neuroscience Research. 2019;97:215-24.

SEX, ADHD SYMPTOMS, AND CHRNA5 GENOTYPE INFLUENCE REACTION TIME BUT NOT RESPONSE INHIBITION.

Schote AB, Sayk AL, Pabst K, et al.

People showing symptoms of attention deficit hyperactivity disorder (ADHD) often present an impairment of reaction time and response inhibition. These executive functions are influenced by nicotinergic acetylcholine receptors (nAchr) as mediators of cholinergic signaling, and show differences between both sexes. We examined the effects of two functional polymorphisms rs3841324 (S/L) and rs16969968 (G/A) of the cholinergic gene CHRNA5, ADHD symptoms and sex on response inhibition/reaction time in the Stop Signal Task. In the analyses, 183 participants (52.4% females) were included. In participants carrying the diplotype (SS_GG), men with ADHD symptoms responded faster, while men without ADHD symptoms were slower than women (F-á=-á5.313; p-á=-á0.023; +Àp2 = 0.034). Although explorative, this threefold interaction on reaction time but not response inhibition extend previous findings, suggesting a moderating effect of ADHD symptoms in men carrying the CHRNA5 diplotype SS_GG and might inspire research on genotype- and gender-specific ADHD medication

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J Pediatr Gastroenterol Nutr. 2018;67:S328.

FREQUENCY OF CONSTIPATION AND ITS RELATION TO ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG CHILDREN PRESENTING TO INPATIENT AND OUTPATIENT PAEDIATRIC DEPARTMENT OF A TERTIARY CARE HOSPITAL OF KARACHI.

Aziz S, Malik L, Waseem R, et al.

Objective The aim of this study was to determine the frequency of constipation in children and it's relation to Attention-Deficit/Hyperactivity Disorder in inpatient and outpatient pediatric departments of a tertiary care hospital in Pakistan. It not only aimed at providing better evaluation and treatment inside the hospital setting, which in turn will lead to better counselling of the patient and his/her family to help them eradicate the problem.
Patients and method An ongoing cross sectional study is being conducted. Data of 206 out of 400 is being presented. All patients recruited from ward and outpatient department of Paediatric of Abbasi Shaheed Hospital via consecutive sampling presenting with complain of constipation were included. Out of 206, 159

(77%) were from out patient department (OPD), rest were from inpatient department (ward). After taking IRB and informed consent from parents, a pilot study was conducted followed by the questionnaires being filled. The Performa comprises of questions regarding bowel habits, frequency, type and size of stools. Associated systemic manifestations and any co-morbidity was also evaluated. Each included child was also evaluated by NICHQ Vanderbilt Assessment scales - Parent Informant for ADHD. Children 6 years to 12 years were included and those children who are already diagnosed with Irritable Bowel Syndrome, known Celiac Disease, Hyperthyroidism, Cystic Fibrosis and structural anomalies were excluded.
Results The total number of patients was 206. Male were 56% and female were 43%. Among age distribution, six years (30.5%) age group had highest reported complain of constipation, followed by 9 years (18.9%). Duration of constipation was 4-¦2.1 months. The type of stool was mostly small and dry. Children presenting with abdominal pain were (25%). Only 3 patients had history of not passing stool for greater than 24 hours. Only about, 3.56% use school washrooms because most of the school's washroom were lacking basic sanitary items and hygiene. Hypothyroidism (3.52%), autism (3.41%) and enteric fever (4%) were medical conditions associated. According to NICHQ Vanderbilt assessment score, predominantly inattentive subtype was observed in 43(20.8%) children of age (6-¦1.4yrs) more in female (67.44%), conduct disorder 10(4.8%), anxiety/depression 17(8.2%), age(11-¦ 1.33 yrs.), more in females(64%). Hyperactivity was in 15(7.2%), age (7.3-¦1.23 yrs.), more in females (86.66%). While, ADHD was in 9(4.3%), age (6-¦1.12 yrs.), more in males (88.7%) opposional in 3 (1.4%) age (6 yrs.), more in females. Children not falling to any category were 109 (52.9%) age group(8.9-¦0.34 yrs.) . Type of stool in every patient was small and hard.
Conclusion Majority of the patients are of school going age and not using washroom during school hours. Among it's relation with attention deficit disorders, inattentive subtype was predominant. However, majority of the patients (52.9%) did not fall in any category

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J Pediatr. 2018.

LONGITUDINAL TRENDS IN THE DIAGNOSIS OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER AND STIMULANT USE IN PRESCHOOL CHILDREN ON MEDICAID.

Davis DW, Feygin Y, Creel L, et al.

Objectives: To describe trends in the diagnosis of attention-deficit/hyperactivity disorder (ADHD) and prescribing of stimulants in preschool-age children receiving Medicaid and to identify factors associated with the receipt of psychosocial care.
Study design: Data were extracted from 2012-2016 Kentucky Medicaid claims for children aged <6 years. ADHD was identified using International Classification of Diseases, Tenth Revision codes F90.0, F90.1, F90.2, F90.8, and F90.9. Psychosocial therapy was defined as having at least 1 relevant Current Procedural Terminology code in a claim within the year. A generalized linear model with a logit link and binomial distribution was used to assess factors associated with receipt of psychosocial treatment in 2016.
Results: More than 2500 (1.24%) preschool-aged children receiving Medicaid had a diagnosis of ADHD in 2016, with 988 (38.2%) of those receiving a stimulant medication. Children in foster care were diagnosed with and/or treated for ADHD 4 times more often than other Medicaid recipients. Of the 1091 preschoolers receiving stimulants, 99 (9%) did not have a diagnosis of ADHD. There were no significant differences in diagnoses by race/ethnicity, but children reported to be black, Hispanic, or other race/ethnicity received stimulants at a lower rate than white children. Positive predictors for receiving psychosocial therapy in 2016 included having the diagnosis but not receiving a stimulant, having at least 1 prescription written by a psychiatrist, having comorbidities, and age. The use of stimulants in children aged <6 years declined from 0.9% in 2012 to 0.5% in 2016.
Conclusions: Promising trends demonstrate a decreasing use of stimulants in preschoolers; however, continued vigilance is needed to promote the optimal use of psychosocial interventions

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NeuroImage. 2019;188:43-58.

FUNCTIONAL CONNECTIVITY CHANGES ASSOCIATED WITH FMRI NEUROFEEDBACK OF RIGHT INFERIOR FRONTAL CORTEX IN ADOLESCENTS WITH ADHD.

Rubia K, Criaud M, Wulff M, et al.

Attention Deficit Hyperactivity Disorder (ADHD) is associated with poor self-control, underpinned by inferior fronto-striatal deficits. We showed previously that 18 ADHD adolescents over 11 runs of 8.5 min of real-time functional magnetic resonance neurofeedback of the right inferior frontal cortex (rIFC) progressively increased activation in 2 regions of the rIFC which was associated with clinical symptom improvement. In this study, we used functional connectivity analyses to investigate whether fMRI-Neurofeedback of rIFC resulted in dynamic functional connectivity changes in underlying neural networks. Whole-brain seed-based functional connectivity analyses were conducted using the two clusters showing progressively increased activation in rIFC as seed regions to test for changes in functional connectivity before and after 11 fMRI-Neurofeedback runs. Furthermore, we tested whether the resulting functional connectivity changes were associated with clinical symptom improvements and whether they were specific to fMRI-Neurofeedback of rIFC when compared to a control group who had to self-regulate another region. rIFC showed increased positive functional connectivity after relative to before fMRI-Neurofeedback with dorsal caudate and anterior cingulate and increased negative functional connectivity with regions of the default mode network (DMN) such as posterior cingulate and precuneus. Furthermore, the functional connectivity changes were correlated with clinical improvements and the functional connectivity and correlation findings were specific to the rIFC-Neurofeedback group. The findings show for the first time that fMRI-Neurofeedback of a typically dysfunctional frontal region in ADHD adolescents leads to strengthening within fronto-cingulo-striatal networks and to weakening of functional connectivity with posterior DMN regions and that this may be underlying clinical improvement

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Neuropsychiatr Dis Treat. 2018;14:3231-40.

CLINICAL EFFECTS OF REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION COMBINED WITH ATOMOXETINE IN THE TREATMENT OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER.

Cao P, Xing J, Cao Y, et al.

Objective: To explore the effect of repetitive transcranial magnetic stimulation (rTMS) combined with atomoxetine (ATX) in the treatment of attention-deficit hyperactivity disorder (ADHD).

Methods: Sixty-four patients with newly diagnosed ADHD were enrolled from January 2016 to October 2017 from Psychological Centre for Adolescents and Children at 102th Hospital of People's Liberation Army of China. These patients were randomly assigned to three groups according to treatment method: the rTMS group, the ATX group, and the rTMS+ ATX group. Before treatment and 6 weeks after treatment, clinical symptoms and executive functions of ADHD patients were evaluated with the Swanson, Nolan, and Pelham, Version IV (SNAP-IV) Questionnaire, continuous performance test, three subtests (arithmetic, digit span, and coding) of Wechsler Intelligence Scale for Children, as well as Iowa Gambling Tasks (IGT). The effects of treatment were compared among three groups.

Results: After 6 weeks of treatment, the scores of all factors in the SNAP-IV questionnaire were lower than those before treatment in the three groups; the scores of three subtests of Wechsler Intelligence Scale for Children, continuous performance test, and IGT were also significantly higher than those before treatment. The rTMS+ ATX group had a better improvement in attention deficits and hyperactivity impulse on the SNAP-IV questionnaire compared with the other groups, and also had a higher efficacy on cold and hot executive functions such as arithmetic, forward numbers, coding, and IGT. In addition, the ATX group performed better than the rTMS group in coding and IGT.

Conclusion: rTMS, ATX, and the combination therapy are effective in improving core symptoms and executive function in patients with ADHD. The combined treatment has significant therapeutic advantages over the single treatment groups. Compared with rTMS, the drug therapy has a better improvement in coding and IGT

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Neuropsychiatr Dis Treat. 2018;14:2905-13.

NEUROFEEDBACK VERSUS PSYCHOSTIMULANTS IN THE TREATMENT OF CHILDREN AND ADOLESCENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A SYSTEMATIC REVIEW.

Razoki B.

This systematic review aimed to evaluate the efficacy of neurofeedback (NF) compared to stimulant medication in treating children and adolescents with attention-deficit/ hyperactivity disorder (ADHD). Included in this review are eight randomized controlled trials that compared an NF condition, either alone or combined with medication, to a medication condition, which was mainly methylphenidate. Outcome measures included behavioral assessments by parents and teachers, self-reports, neurocognitive measures, electroencephalogram power spectra and event-related potentials. When only trials are considered that include probably blinded ratings or those that are sham-NF or semi-active controlled or those that employed optimally titration procedures, the findings do not support theta/beta NF as a standalone treatment for children or adolescents with ADHD. Nevertheless, an additive treatment effect of NF was observed on top of stimulants and theta/beta NF was able to decrease medication dosages, and both results were maintained at 6-month follow-up. This review concludes that the present role of NF in treating children diagnosed with ADHD should be considered as complementary in a multimodal treatment approach, individualized to the needs of the child, and may be considered a viable alternative to stimulants for a specific group of patients. Particularly patients with the following characteristics may benefit from NF treatment: low responders to medication, intolerable side effects due to medication, higher baseline theta power spectra and possibly having no comorbid psychiatric disorders. Future research should prioritize the identification of markers that differentiate responders from nonresponders to NF treatment, the potential of NF to decrease stimulant dosage, the standardization of NF treatment protocols and the identification of the most favorable neu-rophysiological treatment targets

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Neuropsychiatr Dis Treat. 2018;14:2181-90.

RELIABILITY AND VALIDITY OF THE CHINESE VERSION OF QUESTIONNAIRE CHILDREN WITH DIFFICULTIES FOR CHINESE CHILDREN OR ADOLESCENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A CROSS-SECTIONAL SURVEY.

Zheng Y, Du Y, Su LY, et al.

Purpose: The Questionnaire Children with Difficulties (QCD) has been developed and used to evaluate daily-life problems in children during specified periods of the day. The objective of this study was to evaluate the reliability and validity of the QCD for Chinese children or adolescents with attention-deficit/hyperactivity disorder (ADHD).

Patients and methods: Outpatients with ADHD aged 6ΓÇô18 years who visited psychiatry clinics were enrolled at four study centers in China. Patients with severe psychiatric disorders were excluded. Parents of all enrolled patients were given the QCD, the Swanson, Nolan and Pelham IV (SNAP-IV), and the Weiss Functional Impairment Scale-Parent (WFIRS-P) questionnaires and were asked to complete all three questionnaires. The reliability of the QCD was examined by Cronbach's alpha, which assessed the internal consistency of the questionnaire. Concurrent criterion validity of QCD scores was examined by Spearman's correlation of QCD with SNAP-IV and WFIRS-P scores.

Results: A total of 200 Chinese patients were analyzed (average age, 10.4-¦2.66 years). The majority of patients were male (77.5%), and 49.0% had the combined ADHD subtype. Cronbach's alpha for QCD was 0.88. Correlation coefficients of the QCD total score with SNAP-IV total score and WFIRS-P average score were 0.47 and 0.57, respectively. Correlations for the QCD with SNAP-IV and WFIRS-P were statistically significant (P<0.01). The area under the curve for sensitivity and specificity of the QCD compared with the SNAP-IV and WFIRS-P was 0.70 and 0.71, respectively. The ADHD severity discrimination threshold range of the QCD total score was 30ΓÇô35.

Conclusion: Our study results found the QCD to be a reliable and valid instrument and recommend its use in clinical practice to identify and evaluate daily-life problems of ADHD patients during specified periods of the day in China

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Neuropsychiatr Dis Treat. 2018;14:2551-61.

CLINICAL AND NEUROPSYCHOLOGICAL OUTCOMES FOR CHILDREN WITH PHENYLKETONURIA IN UPPER EGYPT; A SINGLE-CENTER STUDY OVER 5 YEARS.

Sadek AA, Hassan MH, Mohammed NA.

Background: Phenylketonuria (PKU) is considered to be a rare inborn error of metabolism but one of the commonest causes of mental retardation if untreated.

Objectives: The present study was done to characterize the clinical patterns of PKU and analyze various neuropsychiatric outcomes in PKU children in Sohag Province, Egypt.

Patients and methods: A prospective cohort study was conducted on 113 PKU patients, diagnosed during the period from 2012 to 2017, at the Pediatric Neurology Clinic of Sohag University Hospital, Upper Egypt. One hundred and ten cases were diagnosed based on clinical suspicion combined with laboratory confirmation by measuring their plasma phenylalanine levels using amino acid analyzer, while 3 cases were detected during neonatal screening. With the exception of the 3 cases detected during neonatal screening, all patients were clinically diagnosed and treated late. Psychometric evaluations of PKU patients were done using intelligence quotient (IQ, Stanford Binet V), Childhood Autism Rating Scale, and Children's Attention and Adjustment Survey. Dietetic management was applied. The results of neuroimaging (computed tomography or magnetic resonance imaging of the brain) and electroencephalography were included when available.

Results: The overall results showed that 15.9% had hyperphenylalaninemia, 35.4% had mild to moderate PKU, and classic PKU was diagnosed in 48.7%. Global developmental delay (54.9%) and delayed language (29.2%) were the most frequent presentations. Moderately impaired or delayed overall IQ was present in 77%. While, 83.2% had moderately impaired or delayed verbal IQ, autism was diagnosed in 50.4%. Super average and average probability of attention-deficit hyperactivity disorder was diagnosed in 88.5%. Abnormal neuroimaging (white matter abnormalities and brain atrophy) was the most important significant predictor for poor language and motor developmental outcome ($P<0.05$).

Conclusion: PKU children had variable neuropsychological outcomes, mainly attention-deficit hyperactivity disorder and impaired verbal IQ, both of which were not related to the initial phenylalanine levels or to duration of dietary therapy, but were significantly related to early dietary intervention

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Neuropsychiatr Dis Treat. 2018;14:1831-42.

ASSOCIATION BETWEEN PERIPHERAL MANGANESE LEVELS AND ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A PRELIMINARY META-ANALYSIS.

Shih J-H, Zeng B-Y, Lin P-Y, et al.

Evidence has suggested that dysregulation of the dopaminergic system may play a significant role in the pathogenesis of attention-deficit/hyperactivity disorder (ADHD) in children. Manganese, a neurotoxicant, has been reported to exert its neurotoxicity by affecting the dopaminergic system. However, the association between peripheral manganese levels and ADHD has not been comprehensively reviewed. This study aimed to investigate the association between peripheral manganese levels and ADHD in children. An electronic search was performed on databases including PubMed, ProQuest, ClinicalKey, Cochrane Library, ClinicalTrials.gov, Embase, Web of Science, and ScienceDirect with last search on March 25th, 2018. As per the inclusion criteria, human observational studies investigating peripheral manganese levels in children with ADHD and controls were included. The meta-analysis was performed using a random-effects model, and possible confounders were examined by subgroup analysis. In total, four articles with 175 ADHD children and 999 controls were recruited. The manganese levels were significantly higher in ADHD children than in controls ($p=0.033$), when studies investigating blood levels and those investigating hair levels were included. However, when only studies investigating blood levels were included, there was no significant difference between ADHD children and controls ($p=0.076$). Our results support higher peripheral manganese levels in children diagnosed with ADHD than those in controls. Further primary studies are needed to clarify this association

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Neuropsychiatr Dis Treat. 2018;14:2783-91.

SOCIAL ADJUSTMENT AND FAMILY FUNCTION AFTER DRUG SWITCH FROM IR-METHYLPHENIDATE TO OROS-METHYLPHENIDATE IN PATIENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER.

Chou W-J, Wang L-J, Lin C-H, et al.

Purpose: This prospective, single-arm, open-label, 8-week, multicenter study investigated the effectiveness of switching from immediate-release methylphenidate (IR-MPH) to osmotic controlled-release methylphenidate (OROS-MPH) in patients with attention-deficit/hyperactivity disorder (ADHD).

Patients and methods: Overall, 296 patients with ADHD (mean age: 9.5 years) already on IR-MPH treatment were enrolled. Upon enrollment, a flexible dose of OROS-MPH was administered, replacing IR-MPH. Patients were assessed at baseline and weeks 2, 4, and 8 using the Swanson, Nolan, and Pelham version IV scale (SNAP-IV) and the Clinical Global Impression for ADHD symptoms. The Social Adjustment Inventory for Children and Adolescents assessed social functions, and the Chinese Health Questionnaire (CHQ) and Family Adaptation, Partnership, Growth, Affection, and Resolve evaluated parental and family functions.

Results: Switching from IR-MPH to OROS-MPH yielded significant improvements in all ADHD symptoms, as rated by parents, teachers (SNAP-IV), and study investigators (Clinical Global Impression). CHQ scores and all Social Adjustment Inventory for Children and Adolescents subscores except spare time scores improved significantly. Patients with poor IR-MPH adherence had greater improvements in teacher-rated SNAP-IV and mothersΓÇÖ mental health (CHQ) after switching.

Conclusion: Switching from IR-MPH to OROS-MPH improved patientsΓÇÖ behavioral ADHD symptoms and social adjustment, and mental health of patients mothers. This was most evident in patients who previously exhibited poor IR-MPH adherence

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NeuroRegulation. 2018;5:109-28.

USING NEUROFEEDBACK TO IMPROVE ADHD SYMPTOMS IN SCHOOL-AGED CHILDREN.

McReynolds CJ, Villalpando LS, Britt CE.

The diagnosis and treatment of the behaviors associated with attention-deficit/hyperactivity disorder (ADHD) predominantly involves pharmacological interventions. Many children experience significant negative side effects (e.g., appetite suppression, insomnia, headaches, stomachaches, irritability, and impaired height) from the initial and continued use of stimulant medication. Consequently, many parents are motivated to consider alternative treatments for ADHD such as neurofeedback. This paper presents an archival review of the improvements in auditory and visual attention and response control after 40 sessions of artifact-corrected neurofeedback for 51 children ages 6 to 17 with ADHD. Initially, the majority of these clients were identified as having severe to extreme auditory and visual attention impairments. The IVA-2 CPT was administered prior to treatment and after 20 and 40 treatment sessions were completed. After 20 sessions of neurofeedback significant improvements of both auditory and visual attention and response control were found with small to large size effects. The clients continued to improve after an additional 20 sessions, with medium to large size effects after 40 sessions. At completion of treatment the mean of eight of the nine attention and response control scores fell within the normal range

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Neurosci Behav Physiol. 2018.

PHARMACOTHERAPY OF ATTENTION DEFICIT HYPERACTIVITY DISORDER IN CHILDREN: RESULTS OF A MULTICENTER, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL OF HOPANTENIC ACID.

Zavadenko NN, Suvorinova NY, Vakula IN, et al.

Objectives. To assess the efficacy and safety of hopantenic acid (Pantogam) compared with placebo in the treatment of ADHD for four months in children aged 6-12 years during a prospective, multicenter, comparative, double-blind, placebo-controlled, parallel-group trial.

Materials and methods. The study included 100 patients constituting the safety population (50 in the Pantogam group and 50 in the placebo group). A total of 89 patients completing the study in compliance with

the protocol entered the efficacy evaluation population: 45 in the Pantogam group (group 1) and 44 in the placebo group (group 2). Pantogam was given as tablets containing 250 mg at the pediatric therapeutic dose of 30 mg/kg, divided into two split doses, for four months. Assessment of patientsΓÇÖ statements at follow-up addressed the total points scores on the DSM-IV ADHD, the CGI-S Clinical Global Impression scale, the WFIRS-P functional impairments scale, and the results of a correction test (the Toulouse Pieron test).
Results and conclusions. The efficacy of Pantogam in ADHD in children aged 6-12 years as compared with placebo showed a marked tendency to an increase in the proportion of patients with improvements (decreases in total points scores on the DSM-IV ADHD scale by more than 25%) by the ends of the third and fourth months of treatment: treatment responses were achieved in 66.7% and 68.9%, respectively, compared with 52.3% and 61.4% in the placebo group. Pantogam therapy also produced a decrease in disease severity from the placebo level on the CGI-S scale. At four months of Pantogam treatment, there were decreases in the severity of functional impairments on sections 4 and 6 of the WFIRES-P Family, School and learning, Childs self-concept, and Risky activities scales. Pantogam also improved the maintenance of attention in children with ADHD, as measured using the Toulouse Pieron test (quality and rate of performance) as compared with placebo. Treatment with Pantogam at a mean daily dose of 30 mg/kg for four months demonstrated a favorable safety profile, no different from that of placebo

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New Engl J Med. 2018;379:2122-30.

ATTENTION DEFICIT-HYPERACTIVITY DISORDER AND MONTH OF SCHOOL ENROLLMENT.

Layton TJ, Barnett ML, Hicks TR, et al.

BACKGROUND Younger children in a school grade cohort may be more likely to receive a diagnosis of attention deficit-hyperactivity disorder (ADHD) than their older peers because of age-based variation in behavior that may be attributed to ADHD rather than to the younger age of the children. Most U.S. states have arbitrary age cutoffs for entry into public school. Therefore, within the same grade, children with birthdays close to the cutoff date can differ in age by nearly 1 year.
METHODS We used data from 2007 through 2015 from a large insurance database to compare the rate of ADHD diagnosis among children born in August with that among children born in September in states with and states without the requirement that children be 5 years old by September 1 for enrollment in kindergarten. ADHD diagnosis was determined on the basis of diagnosis codes from the International Classification of Diseases, 9th Revision. We also used prescription records to compare ADHD treatment between children born in August and children born in September in states with and states without the cutoff date of September 1.
RESULTS The study population included 407,846 children in all U.S. states who were born in the period from 2007 through 2009 and were followed through December 2015. The rate of claims-based ADHD diagnosis among children in states with a September 1 cutoff was 85.1 per 10,000 children (309 cases among 36,319 children; 95% confidence interval [CI], 75.6 to 94.2) among those born in August and 63.6 per 10,000 children (225 cases among 35,353 children; 95% CI, 55.4 to 71.9) among those born in September, an absolute difference of 21.5 per 10,000 children (95% CI, 8.8 to 34.0); the corresponding difference in states without the September 1 cutoff was 8.9 per 10,000 children (95% CI, -14.9 to 20.8). The rate of ADHD treatment was 52.9 per 10,000 children (192 of 36,319 children; 95% CI, 45.4 to 60.3) among those born in August and 40.4 per 10,000 children (143 of 35,353 children; 95% CI, 33.8 to 47.1) among those born in September, an absolute difference of 12.5 per 10,000 children (95% CI, 2.43 to 22.4). These differences were not observed for other month-to-month comparisons, nor were they observed in states with non-September cutoff dates for starting kindergarten. In addition, in states with a September 1 cutoff, no significant differences between August-born and September-born children were observed in rates of asthma, diabetes, or obesity.
CONCLUSIONS Rates of diagnosis and treatment of ADHD are higher among children born in August than among children born in September in states with a September 1 cutoff for kindergarten entry

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Paediatrics and Child Health (Canada). 2018;23:491-97.
ADHD IN CHILDREN AND YOUTH: PART 3 - ASSESSMENT AND TREATMENT WITH COMORBID ASD, ID, OR PREMATURITY.
Clark B, Bòlanger SA.

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Paediatrics and Child Health (Canada). 2018;23:454-61.
ADHD IN CHILDREN AND YOUTH: PART 1 - ETIOLOGY, DIAGNOSIS, AND COMORBIDITY.
Bòlanger SA, Andrews D, Gray C, et al.

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Paediatrics and Child Health (Canada). 2018;23:473-84.
ADHD IN CHILDREN AND YOUTH: PART 2 - TREATMENT.
Feldman ME, Charach A, et al.

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Pediatr Dermatol. 2018.
NEUROCOGNITIVE FUNCTION IN MODERATE□ÇÔSEVERE PEDIATRIC ATOPIC DERMATITIS: A CASE-CONTROL STUDY.
Kruse L, Cices A, Fishbein AB, et al.
Background/Objectives: Epidemiological studies have shown an increased prevalence of attention deficit hyperactivity disorder (ADHD) in children with atopic dermatitis (AD), but many of the features of ADHD may occur as a result of the poor sleep and itch distraction associated with AD.
Methods: A case-control study was performed in children aged 6-17 years with moderate/severe AD compared with age-/sex-matched healthy controls. Participants were screened for ADHD using Vanderbilt assessments.
Results: Seventeen patients with AD and 18 controls completed the study. Two children with AD (11.7%) and one control (5.56%) met screening criteria for ADHD via parent-completed Vanderbilt assessments; AD patients were not significantly more likely to screen positive for ADHD (P-á=-á0.47), or comorbid behavior disorders (P-á=-á0.23). However, AD patients were more likely than controls to exhibit ADHD-associated behaviors, most significantly inattention.
Conclusions: Our AD cohort did not have a significantly increased prevalence of ADHD. Certain neurocognitive symptoms are increased in children with moderate-to-severe AD compared to controls

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Pediatr Diabetes. 2018.
ASSOCIATION OF ATTENTION DEFICIT HYPERACTIVITY DISORDER WITH RECURRENT HYPOGLYCEMIA IN TYPE 1 DIABETES MELLITUS.
Lin S-Y, Lin C-L, Hsu W-H, et al.
Objective: Data regarding the association between hypoglycemia and attention deficit hyperactivity disorder (ADHD) in children and adolescents with type 1 diabetes mellitus (T1DM) are limited. This study investigated whether hypoglycemia was associated with the risk of ADHD in young people with T1DM.
Methods: Children and adolescents with a diagnosis of T1DM were identified from the Longitudinal National Health Insurance Database in Taiwan from 1998 to 2011. Among them who were newly diagnosed with hypoglycemia during 2000 to 2007 were selected for the hypoglycemia cohort. The hypoglycemia diagnosis date was defined as the index date. Those who were diagnosed with ADHD before the index date were excluded. The main outcome was the development of ADHD. In total, 726 participants with hypoglycemia and 2852 participants without hypoglycemia were included in this study.

Results: The overall incidence density of ADHD was markedly increased among cohort with hypoglycemia compared with cohort without hypoglycemia (4.74 vs 1.65 per 1000 person-years), with an adjusted hazard ratio (aHR) of 2.73 (95% confidence interval [CI] = 1.50-4.98). Cohort with hypoglycemia who had experienced a hypoglycemic coma had a significantly higher risk of ADHD (aHR = 6.54, 95% CI = 1.89-22.7) compared with cohort without hypoglycemia.
Conclusions: Hypoglycemia, especially hypoglycemic coma, is significantly associated with a subsequent risk of ADHD in young people with T1DM

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Pharm Ztg. 2018;163.
ADHD IN CHILDREN: METHYLPHENIDATE IS THE FIRST CHOICE.
Hòttemann D, Kinder S.

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Pilot and Feasibility Studies. 2018;4.
PROTOCOL FOR THE STAR (SHEFFIELD TREATMENTS FOR ADHD) PROJECT: AN INTERNAL PILOT STUDY ASSESSING THE FEASIBILITY OF THE TRIALS WITHIN COHORTS (TWICS) DESIGN TO TEST THE EFFECTIVENESS OF INTERVENTIONS FOR CHILDREN WITH ADHD.
Fibert P, Relton C, Peasgood T, et al.
Background: Attention deficit hyperactivity disorder (ADHD) is a common and growing problem and a leading cause of child referrals to Child and Adult Mental Health Services (CAMHS). It is a drain on resources across nationally funded support agencies and associated with negative outcomes such as early criminality, school disruption and antisocial behaviour. Mainstream interventions (pharmacological and behavioural) demonstrate effectiveness whilst implemented, but are costly, often have unwanted side effects and do not appear to be affecting long-term outcomes. Development of a robust evidence base for the effectiveness of current and novel interventions and their impact over the long term is required. The aim of the Sheffield Treatments for ADHD Research (STAR) project is to facilitate a rigorous evidence base in order to provide information about the comparative (cost) effectiveness and acceptability of multiple interventions to key stakeholders.
Methods: The Trials within Cohorts (TwiCs) design was used to build a cohort of children with a diagnosis of ADHD and conduct a three-armed pilot trial of the clinical and cost effectiveness of two novel interventions: (a) treatment by nutritional therapists and (b) treatment by homoeopaths, compared to (c) treatment as usual. Participants are recruited to the STAR long-term observational cohort, and their outcomes of interest (ADHD symptoms, health-related quality of life, school disruption, resource use and criminality) are measured every 6 months by carers and (blinded) teachers. Two promising interventions were identified for the first randomised controlled trial embedded in the cohort. A random selection of eligible participants is offered treatments (a) and (b). The outcomes of those offered treatment are compared to those not offered treatment using intention to treat (ITT) analysis. The feasibility of recruiting to the cohort and the trial, delivering the interventions, the effectiveness of the interventions and the appropriateness, sensitivity and collectability of outcomes is trialled.
Discussion: The results of this trial will provide information on the feasibility of the TwiCs design to facilitate multiple trials of potential interventions for children with ADHD, and the acceptability, clinical and cost effectiveness of two potential interventions for ADHD to ADHD stakeholders including service providers. Future stages of the STAR project will test other treatments informed by the results in stage 1

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PLoS ONE. 2018;13.

QUESTIONING THE LONG-TERM STABILITY OF THE ADDITIVE MODEL IN COMORBID CTD+ADHD - THE TRANSITION FROM CHILDHOOD TO ADULTHOOD.

Mùller O, Rothenberger A, Br++ni GL, et al.

Background A previous study (Roessner et al. 2007) found psychopathological evidence of an additive model of the comorbid group with Chronic Tic Disorders and Attention Deficit Hyperactivity Disorder (CTD+ADHD), which demanded clinical interventions aimed primarily at the factor ADHD. This 14-year follow-up study tested whether this childhood additive model can also be found in young adulthood and whether ADHD remains the most impairing factor.

Methods 92 patients (22.8% girls) from Roessner et al. (2007) were re-investigated as young adults at the age of 24 years, broken down into four groups: CTD-only (n = 22), CTD+ADHD (n = 23), ADHD-only (n = 24), and controls (n = 23). The Adult Behavior Checklist (ABCL) was used as an equivalent parent-report instrument to the Child Behavior Checklist (CBCL) applied 14 years ago. Statistically, 2x2 factorial design was completed.

Results From the point of view of parents, the factors CTD and ADHD in young adults contributed almost equally to psychopathological problems and showed many interactions, i.e. an interactive model was supported. In addition, the ADHD factor was no longer the leading problem for psychosocial impairment in the adult CTD+ADHD group.

Conclusion The additive model of CTD+ADHD seems to exist no longer in young adults, nor may the childhood predominance of the factor ADHD in comorbid CTD+ADHD. Thus, treatment priority should be decided by clinicians on a case-by-case basis depending on the most impairing disorder of each patient

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PLoS ONE. 2018;13.

MEDICAL TREATMENT OF ATTENTION DEFICIT/ HYPERACTIVITY DISORDER (ADHD) AND CHILDREN'S ACADEMIC PERFORMANCE.

Keilow M, Holm A, Fallesen P.

Attention Deficit/Hyperactivity Disorder (ADHD) is negatively associated with a range of academic achievement measures. We use Danish administrative register data to study the impact of medical treatment of ADHD on childrenΓÇÖs academic performance assessed by student grade point average (GPA). Using administrative register data on children, who begin medical treatment, we conduct a natural experiment and exploit plausible exogenous variation in medical nonresponse to estimate the effect of medical treatment on school-leaving GPA. We find significant effects of treatment on both exam and teacher evaluated GPAs: Compared to consistent treatment, part or full discontinuation of treatment has large significant negative effects reducing teacher evaluation and exam GPA with .18 and .22 standard deviations, respectively. The results demonstrate that medical treatment may mitigate the negative social consequences of ADHD. Placebo regressions indicate that a causal interpretation of our findings is plausible

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Psychiatr Q. 2018 Dec;89:923-36.

MARKERS FOR SEVERITY OF PROBLEMS IN INTERPERSONAL RELATIONSHIPS OF CRACK COCAINE USERS FROM A BRAZILIAN MULTICENTER STUDY.

Pachado MP, Scherer JN, Guimaraes LSP, et al.

Crack cocaine users frequently report difficulties regarding having healthy and rewarding relationships. Factors other than the use of crack cocaine itself may be at play when it comes to being able to develop healthier connections with partners, adult relatives and close friends. To verify which factors, including demographics, substance abuse related factors and psychiatric comorbidities could be markers for a higher severity of problems in interpersonal relationships of crack cocaine users seeking for treatment. This was a cross-sectional study, conducted between April 2011 and November 2012. Participants were 407 crack cocaine users seeking treatment in specialized public facilities of six Brazilian capitals. The relationship of severity of problems in the family/social area and the prevalence of psychiatric disorders, exposure to

stressful events, substance use related factors and practice of illicit activities were explored through multivariate analyses. Number of days using crack cocaine in the last 30 days, age of first time using alcohol and feeling its effects, a diagnosis of alcohol abuse, posttraumatic stress disorder, antisocial personality disorder and attention-deficit/hyperactivity disorder were significantly associated with a higher severity of problems in interpersonal relationships with partners, adult relatives and friends. Problems in interpersonal relationships are strongly related to specific psychiatric comorbidities and the frequency of crack cocaine use. Factors identified by this study can make the paths to recovery more challenging. These results support psychosocial interventions that focus in the improvement of interpersonal relationships of crack cocaine users

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Psychiatr Danub. 2018;30:S577-S581.

DEPRESSION AS A "COMORBIDITY" OF A DISORDER NOT RECOGNIZED IN ADOLESCENCE.

Urliç I.

Depression is one of the most frequent mood disorders. The spectrum of its meanings is very complex. Symptoms of depression can be felt at every stage of life. Depressed mood states can, as for intensity, show the clinical picture that varies from mood changes to psychotic states. In this presentation, it is described a case of the patient who since early childhood showed the symptoms of ADHD that was showing as a comorbidity feelings of depression, which have significantly hindered the emotional maturation of the person. This etiological clarification has led to effective treatment, including the psychopharmacological and psychotherapeutic approach

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Psychiatry and Clinical Psychopharmacology. 2018.

EFFECTS OF METHYLPHENIDATE TREATMENT IN CHILDREN WITH ADHD: A MULTIMODAL EEG/FNIRS APPROACH.

Dolu N, Alt-¦nkaynak M, G++ven A, et al.

OBJECTIVE: In this study we investigated the stimulant methylphenidate (MPH) effects in Attention deficit hyperactivity disorder (ADHD) from neuroimaging and neurophysiological perspective by simultaneous recording functional near infrared spectroscopy (fNIRS) and electroencephalography (EEG) during attention task.

METHODS: Using fNIRS we obtained frontal cortex hemodynamic responses and using event related potentials (ERP) we obtained amplitude values of P3 component of 18 children with ADHD and gender matched 18 healthy controls performing an oddball task. Same recordings were repeated 3 months after extended-release MPH (OROS-MPH) administration for ADHD group. Prefrontal cortex oxygenation and P3 amplitude were compared between control and pre-MPH ADHD groups and between Pre-MPH and post-MPH ADHD groups.

RESULTS: fNIRS indicated that the healthy controls exhibited higher right prefrontal activation than pre-MPH children with ADHD. Reduced P3 amplitude values were found in children with ADHD compared the control group. Reduced right prefrontal activation and P3 amplitude was normalized in ADHD group after MPH therapy.

CONCLUSION: Recently multimodal neuroimaging which combine signals from different brain modalities have started to be considered as a potential to improve the accuracy of diagnosis. The current study provides MPH effect assessment in children with ADHD using multimodal EEG/fNIRS system for the first time. This study suggests combination of neuroimaging and electrophysiological parameters is a promising approach to investigate MPH effect assessment in children with ADHD

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Psychiatry, Psychology and Law. 2018.

POLICE PERCEPTIONS OF THE IMPACT THAT ADHD HAS ON CONDUCTING COGNITIVE INTERVIEWS WITH YOUTH.

Cunial KJ, Casey LM, Bell C, et al.

Attention deficit hyperactivity disorder (ADHD) in youth witnesses, victims and suspects can significantly impact the investigative interviewing process. In this study, 102 Child Protection Investigation Unit (CPIU) detectives were asked to read four vignettes of adolescents being interviewed by police, two as witnesses and two as suspects, in which one witness and one suspect display ADHD-type behaviour. The detectives rated the degree to which the behaviour in each vignette would impact the interviewerΓÇÖs ability to use the 10 key components of the cognitive interview (CI). They perceived ADHD-type interviewee behaviour as significantly hampering the use of all 10 CI components. There is also a significant difference between the detectivesΓÇÖ rated severity of each CI component; they rated Encourage Concentration, Mentally Recreate and Change Order as exerting the strongest impact on the interview process. Implications for police perceptions of training options, needs and preferences regarding interviewing youth with ADHD are discussed

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Psychol Neurosci. 2018 Dec;11:364-74.

INHIBITORY CONTROL AND COGNITIVE FLEXIBILITY IN CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER.

Amorim WN, Marques SC.

Executive functions are a set of cognitive operations that enable direct behaviors to goals. Deficits in executive functioning have been associated with attention-deficit/hyperactivity disorder (ADHD). The purpose of this study was to describe the performance of children diagnosed with ADHD in tasks of inhibitory control and cognitive flexibility. Thirty children were divided into 2 groups: clinical and control. The Five Digits Test and the Wisconsin Classification Card Test were used as psychological instruments. A questionnaire with a description of daily behaviors was answered by the caregivers of the children. The results indicated that the group of patients with ADHD presented worse performance than the control group in Five Digits Test tasks. No significant differences were observed between the groups in the Wisconsin Classification Card Test. In the caregivers' view, children with ADHD have difficulties controlling motor behavior and inhibiting inappropriate behaviors in social relationships, and ordinary children may have behaviors of not being organized with their personal objects. The effect size was considered small for the study findings. Children with ADHD may require more time than ordinary children to perform the same task. Investigations of larger samples are required to confirm this data

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Psychol Neurosci. 2018.

COMPUTATIONAL PROCESSING OF ELECTROENCEPHALOGRAPHIC SIGNAL AS AN AUXILIARY TOOL IN DIFFERENTIAL DIAGNOSIS OF CO-MORBIDITIES IN CHILDREN WITH LEARNING DISABILITIES.

Campos M, Destro-Filho J-B, Ramos CD.

Learning disabilities (LD) are associated with different clinical conditions. This study attempts to establish patterns on quantitative electroencephalogram (EEG) attached to different symptoms present in children with LD. In addition, it investigates whether these patterns could be helpful in order to distinguish diagnoses regarding these symptoms. Quantitative EEG from LD patients aged between 10 and 14 years old were processed. These EEGs were reviewed by analyzing their average frequencies in six areas of the scalp, frontal, temporal and central/occipital right and left, as well as their association with symptoms commonly presented in LD children. The symptoms were (a) Severe difficulty in reading, writing and calculating; (b) Severe speech disorders; (c) Severe behavioral disorders with aggressiveness; (d) suggestive clinical signs of mild mental impairment; (e) hyperkinetic motor behaviors; and (f) severe attention deficit. EEG patients were divided into two groups according to each symptom: children with and without symptoms; and for each of these subgroups, quantitative EEG was compared between those who presented and the ones who did not present the symptom. Children were divided by age 10-12 and 13-14 years old. EEG from younger children with severe difficulty in reading, writing and calculating presented lower average frequencies as well

as speech disorders. Hyperkinetic behaviors led to no significant differences in the evaluated parameters. Concerning severe behavioral disorders with aggressiveness, the average frequency was significantly higher. Lower frequency was observed regarding the mild mental impairment. And, finally, higher frequencies were found in the temporal areas, in cases of severe attentional deficits in younger children

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Psychoneuroendocrinology. 2018.

ALTERED HYPOTHALAMUS-PITUITARY-ADRENAL AXIS FUNCTION: A RELEVANT FACTOR IN THE COMORBIDITY OF ATOPIC ECZEMA AND ATTENTION DEFICIT/HYPERACTIVITY DISORDER?

Buske-Kirschbaum A, Trikojat K, Tesch F, et al.

Epidemiological data show a significant association between childhood atopic eczema (AE) and an increased risk to develop attention deficit/hyperactivity disorder (ADHD). However, the underlying mechanisms of the comorbidity of AE and ADHD are mostly unknown. We investigated whether alterations of hypothalamus-pituitary-adrenal (HPA) axis function represent a shared feature of AE and ADHD potentiating AE-ADHD comorbidity. Children aged 6ΓÇô12 years with AE, ADHD, or comorbid AE + ADHD and healthy control (HC) children were examined cross-sectionally (N = 145). To evaluate HPA axis function, salivary cortisol in response to psychosocial stress (Trier Social Stress Test for Children, TSST-C), after awakening (cortisol awakening response, CAR), and throughout the day (short diurnal profile) and hair cortisol capturing long-term HPA axis activity were assessed. Quantile regression analyses showed an attenuated cortisol response (% maximum change) to the TSST-C in children with ADHD compared to HC. A diminished cortisol response to acute stress was also observed in the comorbid AE + ADHD group, in which the reduction was numerically even more pronounced. Contrary to our previous findings, no alteration of the cortisol response to the TSST-C was observed in children with AE. However, in children with AE, increased ADHD-like behavior (i.e., inattention, impulsivity, and overall ADHD symptom severity) was associated with a reduced HPA axis response to acute stress. No such associations were observed in children without AE. Groups did not differ in CAR, short diurnal profile, and hair cortisol. These findings underscore the potential relevance of HPA axis function in the pathophysiology of AE and ADHD with emphasis on stress reactivity. Additional studies are required to further explore the separate and joint role of the HPA axis in the pathophysiology of AE and ADHD

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Sleep Med. 2019;54:244-49.

PATIENTS WITH DELAYED SLEEP-WAKE PHASE DISORDER SHOW POORER EXECUTIVE FUNCTIONS COMPARED TO GOOD SLEEPERS.

Wilhelmsen-Langeland A, Saxvig IW, Johnsen EH, et al.

Objective: Delayed Sleep-Wake Phase Disorder (DSWPD) is associated with negative outcomes, including reduced daytime performance and difficulties with treatment adherence. These outcomes are mediated by executive functions (EF). In this study, we investigated whether patients with DSWPD report inferior EF compared to a control group. The study consisted of 40 patients diagnosed with DSWPD (12 males, mean age 20.7 (-¦3.1)) and 20 healthy controls (six males, 21.3 (-¦2.2), p = 1.00) between 16 and 25 years (p = 0.42).

Methods: Behavior Rating Inventory of Executive Function-Adult version Self-Report (BRIEF-A) was used for adults ΓëÑ18 years (DSWPD n = 28; controls n = 17) whereas Behavior Rating Inventory of Executive Function Self-Report Version (BRIEF-SR) was used for assessment of EF in adolescents <18 years (DSWPD n = 12; controls n = 3). Independent samples t-tests were used to compare patients to controls.

Results: The total group of patients with DSWPD scored significantly poorer compared to the control group on the main indexes; Behavioral Regulation Index (BRI) (p = <0.0005), Metacognition Index (MI) (p = <0.0005), and Global Executive Composite (GEC) (p = <0.0005). The adult group with DSWPD scored significantly poorer than the adult control group on eleven of the twelve BRIEF-A scales. Among patients <18 years, the DSWPD-group scored significantly poorer than the control group on 8 of the 13 BRIEF-SR-scales.

Conclusion: Patients with DSWPD reported significantly poorer EF compared to controls. Assessment of EF in patients with DSWPD can be valuable for understanding the consequences of the disorder regarding treatment tailoring and adherence

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Transl Psychiatry. 2018;8.

A CASE-CONTROL GENOME-WIDE ASSOCIATION STUDY OF ADHD DISCOVERS A NOVEL ASSOCIATION WITH THE TENASCIN R (TNR) GENE.

Hawi Z, Yates H, Pinar A, et al.

It is well-established that there is a strong genetic contribution to the aetiology of attention deficit hyperactivity disorder (ADHD). Here, we employed a hypothesis-free genome-wide association study (GWAS) design in a sample of 480 clinical childhood ADHD cases and 1208 controls to search for novel genetic risk loci for ADHD. DNA was genotyped using IlluminaΓÇÖs Human Infinium PsychArray-24v1.2., and the data were subsequently imputed to the 1000 Genomes reference panel. Rigorous quality control and pruning of genotypes at both individual subject and single nucleotide polymorphism (SNP) levels was performed. Polygenic risk score (PGRS) analysis revealed that ADHD caseΓÇôcontrol status was explained by genetic risk for ADHD, but no other major psychiatric disorders. Logistic regression analysis was performed genome-wide to test the association between SNPs and ADHD caseΓÇôcontrol status. We observed a genome-wide significant association (p = 3.15EΓêÆ08) between ADHD and rs6686722, mapped to the Tenascin R (TNR) gene. Members of this gene family are extracellular matrix glycoproteins that play a role in neural cell adhesion and neurite outgrowth. Suggestive evidence of associations with ADHD was observed for an additional 111 SNP. Although intriguing, the association between DNA variation in the TNR gene and ADHD should be viewed as preliminary given the small sample size of this discovery dataset

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Value Health. 2018;21:S279.

RETROSPECTIVE HEALTHCARE CLAIMS DATA NANALYSIS FOR CHILDREN/ADOLESCENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER RECEIVING SECOND-LINE PHARMACOTHERAPY IN GERMANY, EVALUATING PATIENT CHARACTERISTICS AND HEALTHCARE COSTS.

Farahbakhshian S, Flechsig S, Meise D, et al.

Objectives: Attention-deficit/hyperactivity disorder (ADHD) is a heterogeneous neurodevelopmental disorder associated with persistent and cross-situational occurring symptoms, including inattention, hyperactivity and/or impulsivity. The study aimed to evaluate healthcare claims data (demographics, co-occurring disorders and healthcare costs) for children/adolescents with ADHD treated with second-line lisdexamfetamine (LDX) or atomoxetine (ATX) in Germany.

Methods: This was a retrospective claims data analysis conducted using the InGef research database containing anonymized healthcare claims of approximately 4 million individuals covered by statutory health insurance in Germany. Children/adolescents (6-17 years) with an ADHD diagnosis and first prescription of second-line LDX or ATX after methylphenidate treatment were included in the study. Demographic characteristics, co-occurring mental and behavioural disorders (by ICD-10-GM code groups) and direct healthcare costs were analysed in an individual 1-year post-index period after identification in 2014.

Results: A total of 451 children/adolescents with ADHD treated with LDX and 176 treated with ATX were identified (81% and 79% male patients, respectively). The LDX cohort was statistically significantly older (mean age 11.4 vs 10.9 years; p=0.0065). Behavioural/emotional disorders (F91-98) with specific childhood/adolescence onset were reported for 55% and 58% patients in the LDX and ATX cohorts, respectively. Disorders of psychological development (F80-89) were reported for 47% and 52%, respectively. Lower mean inpatient costs were reported in the LDX cohort compared with the ATX cohort (Γé¼1979 vs Γé¼3189; p=0.0028). The difference in inpatient costs led to significantly lower mean overall 1-year direct healthcare costs per patient in the LDX than ATX cohorts (4485 vs 6018; p=0.0004).

Conclusions: There may be a need for an individualized approach to the treatment of children/adolescents with ADHD, particularly considering common co-occurring mental and behavioural disorders reported. In

Germany, children/adolescents treated with second-line ATX compared with LDX incurred significantly higher overall direct healthcare costs. Further multivariate analyses are needed to validate the study outcomes

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"SE FOSSE CANCRO CI SAREBBE UNA PROTESTA, MA È SALUTE MENTALE"

Questo il titolo di un recente "senza esclusione di colpi" nella rubrica Views and Reviews del *BMJ*[1]. Tra le varie considerazioni di Margaret McCartney, *general practitioner* a Glasgow, "ricordiamoci che: l'accesso ai Servizi di salute mentale per l'infanzia è una lotteria, dove l'attesa di anni è la consuetudine; trovare un posto letto libero per un bambino o un adolescente presenta difficoltà enormi e immutabili nel tempo; un terzo dei bambini e degli adolescenti inviati al Servizio di salute mentale non ha accesso e deve rivolgersi a strutture private. Se si trattasse di cancro ci sarebbe stata una protesta. Ma trattandosi di salute mentale, ci mettiamo un cerotto".
In Italia la situazione è peggiore, eppure la reazione non sembra essere diversa. Tra il 2011 e il 2016, la prevalenza delle prestazioni pubbliche per i disturbi neuropsichici dell'infanzia e dell'adolescenza è aumentata del 40-45%, con una crescita annua media del 7%. Sono aumentate le richieste per disturbi specifici dello sviluppo (quali la dislessia e i disturbi del linguaggio) e le richieste per utenti con disabilità o con disturbi psichiatrici di rilevante gravità e complessità. L'accesso ai Servizi di Neuropsichiatria dell'età evolutiva varia tra le Regioni tra il 4% e l'8% della popolazione infantile e adolescenziale, a fronte di un bisogno che è più che doppio. Tuttavia, anche nelle realtà apparentemente più virtuose, solo 1 utente su 2 riesce ad accedere ai Servizi, e 1 su 3 riceve gli interventi terapeutici di cui avrebbe necessità. In particolare, il continuo incremento di accessi ai Servizi va spesso a discapito di un'adeguata presa in carico dopo la diagnosi. Le famiglie si trovano così costrette a cercare risposte lontano da casa o nel privato, con carichi emotivi, pratici ed economici rilevanti[2].
La Società Italiana di Neuropsichiatria dell'Infanzia e dell'Adolescenza (SINPIA) ha più volte gridato interpretando sia le critiche degli operatori che le lamentele dei pazienti e delle loro famiglie (*vedi* pag. 151).
Anche il 3° Rapporto supplementare del Gruppo CRC (Convenzione sui Diritti dell'Infanzia e dell'Adolescenza)[3], complementare a quello fornito dal Governo e che sarà trasmesso alle Nazione Unite, dopo aver fotografato lo stato delle politiche dell'infanzia dalla prospettiva del terzo settore, a partire dall'esperienza di coloro che lavorano quotidianamente con i bambini e gli adolescenti, ribadisce che l'Italia deve rafforzare Servizi e programmi di qualità per la salute mentale.
La politica cosa fa? Non è servito ai ragazzi, alle famiglie, agli operatori dei Servizi e all'organizzazione stessa dei Servizi avere un Ministro, prima per la famiglia e la solidarietà sociale e poi Sottosegretario alla Salute, che fosse neuropsichiatra[4]. A livello regionale, anche per la Neuropsichiatria, i modelli assistenziali sono confacenti alle ragioni della politica locale e non al monitoraggio dell'appropriatezza delle prestazioni, della valutazione degli esiti, della soddisfazione degli utenti e degli operatori per il miglioramento delle cure. I modelli si moltiplicano differenziandosi, così come le disuguaglianze intra- e inter-regionali, mentre i bisogni rimangono inevasi, fino a quando saranno i *budget* a guidare le pianificazioni. Così con il decreto del gennaio 2017 tra i nuovi LEA (livelli essenziali di assistenza) sono riconosciuti anche i disturbi dello spettro dell'autismo[5], affinché il Fondo sanitario nazionale abbia il finanziamento per attuare la legge 134 del 2015[6], che a sua volta avrebbe dovuto attuare le linee di indirizzo del 2012 per il completamento delle linee guida del 2011.
I tempi della politica, si potrebbe dire, ma nel frattempo? E dopo? I LEA sono da sempre disattesi in quelle Regioni in perenne disavanzo economico e con rientro discrezionale. Quindi, quali essenzialità sono riconosciute? Quale equità? Ma se i giovani pazienti autistici e le loro famiglie possono avere almeno una speranza, quelli con altri disturbi psichiatrici?
Le speranze certo non mancano, in particolar modo quando rappresentano le ultime prospettive di pazienti disperati non presi in carico e di famiglie abbandonate, come è nel caso della salute mentale. Ma anche le speranze sono un indicatore di disuguaglianza perché non nascono ovunque, ma solo dove il *terroir* lo consente. Lo è per esempio il recente "Piano regionale salute mentale" della Regione Friuli Venezia Giulia che, nonostante un modello organizzativo all'avanguardia e le criticità dell'esperienza basagliana, pone tra gli obiettivi principali l'identificazione precoce, la diagnosi, la cura e l'abilitazione/riabilitazione rivolta ai minori con disturbi neuropsichiatrici[7]. Oltre alla definizione dei percorsi di transizione delle cure dall'età pediatrica a quella adulta e all'adozione di linee guida per le emergenze psichiatriche anche per l'infanzia e l'adolescenza.
La spesa sanitaria nazionale ammonta a 150 miliardi, il 75% sostenuto dal settore pubblico (6,5% del PIL, prodotto interno lordo, nel 2016). Il Ministro uscente ha affermato che "servono più soldi per il Servizio Sanitario Nazionale. Basterebbero 2-3 miliardi, non 150. A breve termine la spesa andrebbe portata al 7% del PIL". Ma per farne che cosa? "Per rispettare il fabbisogno dell'invecchiamento della popolazione", quindi bambini e adolescenti con disabilità anche complesse e croniche non sono contemplati. In campagna elettorale i Programmi sono straordinari, la salute viene da tutti riconosciuta come un diritto. Alcuni (pochi) vanno oltre indicando come interventi necessari (e promessi): la riqualificazione degli ambienti di cura, l'aggiornamento professionale, la formazione sul campo e il potenziamento del personale. Parole di speranza e non Piani di azione. Tutto il mondo è paese? Forse. Ma il diritto alla salute è universale, individuale e collettivo e va perseguito e promosso, come dichiarato nel 1948 dall'OMS e ribadito dall'art. 32 della Costituzione italiana. Tuttavia nonostante la creazione dell'Autorità garante nazionale per l'infanzia e l'adolescenza (2011) e di 16 garanti regionali, oltre ad alcuni metropolitani, le disattenzioni (disuguaglianze) crescono e cronicizzano e la lettura dei dati (bisogni) è condizionata dalle opportunità dei decisori.
In un'area in cui le povertà si incrociano (quella della Psichiatria[8], quella dei bambini e degli adolescenti – 1 milione in Italia, il 10% dei minori, vive in condizioni di povertà assoluta[9] –, quella della politica[10]) l'essenzialità del senso e dell'utile di un intervento per la comunità necessita di essere recuperata.
In Italia i casi prevalenti vivi dopo una diagnosi di tumore sono circa 3 milioni[11]. Sono oltre 800.000 i bambini e gli adolescenti con bisogni di cure neuropsichiatriche, solo 400.000 accedono ai Servizi di Neuropsichiatria dell'età evolutiva, ma solo 150.000 ricevono gli interventi terapeutici prescritti. Che cosa succederebbe se accadesse lo stesso nei Servizi oncologici?

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Editoriali

Bibliografia

1. McCartney M. If this was cancer there'd be an outcry - but it's mental health. BMJ 2017;359:j5407.
2. Chiarotti F, Ambrosio V, Cordella D, Venerosi A. Offerta sanitaria e sociosanitaria per bambini e adolescenti con disturbi dello spettro autistico in Italia. In Rapporti ISTISAN 2017;17/16:16-55. www.iss.it/binary/publ/ cont/17_16_web.pdf; Lo stato dei Servizi di Neuropsichiatria dell'Infanzia e Adolescenza 2016: www.sinpia.eu/appello_NPIA.pdf.
3. Campi R; Gruppo Lavoro per la Convenzione sui Diritti dell'Infanzia e dell'Adolescenza. I Diritti dell'Infanzia e dell'Adolescenza in Italia. 3° Rapporto Supplementare alle Nazioni Unite sul monitoraggio della Convenzione sui Diritti dell'Infanzia e dell'Adolescenza in Italia. Novembre 2017. Roma: Save the Children Italia, 2017.
4. https://it.wikipedia.org/wiki/Antonio_Guidi_(politico).
5. www.gazzettaufficiale.it/eli/id/2017703/18/17A02015/sg.
6. www.gazzettaufficiale.it/eli/id/2015/08/28/15G00139/sg.
7. Piano Regionale Salute Mentale Infanzia, Adolescenza e Età Adulta anni 2018-2020. Regione Friuli Venezia Giulia. Allegato 1 della Delibera 122-2018. www.regione.fvg.it/asp/delibere/layout2008_2.asp?pag=1&cerca=true&anno=2018&num=122&tx_dataDel= &key= &uf=.
8. Saraceno B. Sulla povertà della psichiatria. Roma: DeriveApprodi, 2017.
9. Save the Children. Fino all'ultimo bambino. Rapporto attività 2016. www.savethechildren.it/sites/default/files/files/uploads/pubblicazioni/fino-allultimo-bambino-rapporto-attivita-2016.pdf.
10. Revelli M. Poveri, noi. Torino: Giulio Einaudi, 2010.
11. Associazione Italiana di Oncologia Medica (AIOM), Associazione Italiana Registri Tumori (AIRTUM). I numeri del cancro 2016. Roma: Il Pensiero Scientifico Editore, 2016.

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La SINPIA denuncia lo stato di sempre maggiore criticità delle risposte per gli utenti con disturbi neuropsichici dell'infanzia e dell'adolescenza e per le loro famiglie

SINPIA
Società Italiana di Neuropsichiatria dell'Infanzia e dell'Adolescenza

Infanzia e adolescenza sono momenti cruciali per la costruzione di una buona salute del corpo e della mente, che caratterizzerà poi tutta la vita dell'individuo, oggi sempre più lunga.
Molte sono le patologie neuropsichiche che, in 1 bambino/ragazzo su 5, possono compromettere questo processo: disabilità intellettive, paralisi cerebrali, disturbi della coordinazione motoria, disturbi specifici del linguaggio e dell'apprendimento, disturbi dello spettro autistico, epilessie, sindromi genetiche rare, malattie neuromuscolari e neurodegenerative, encefalopatie acquisite, tumori cerebrali, disabilità complesse, disturbo da deficit di attenzione con iperattività, disturbi della condotta, disturbi del comportamento alimentare psicosi, disturbi bipolari, depressione e molti altri.
Le patologie psichiatriche, neurologiche e l'abuso di sostanze rappresentano infatti il 13% del *global burden of disease* dell'intera popolazione, una percentuale maggiore persino rispetto alle malattie cardiovascolari, e più del 50% dei disturbi neuropsichici dell'adulto ha un esordio in età evolutiva o è comunque dovuto a eventi morbosi insorti anche molti anni prima della manifestazione del disturbo conclamato.
Interventi tempestivi e appropriati possono cambiare la storia naturale della malattia, prevenire le sequele, evitare la cronicizzazione e diminuire in modo rilevante i costi emotivi, sociali ed economici.

Oggi invece:
- solo 1 utente su 2 riesce ad accedere ai Servizi territoriali di Neuropsichiatria per l'Infanzia e l'Adolescenza (NPIA) per il percorso diagnostico
- solo 1 utente su 3 riesce a ricevere un intervento terapeutico-riabilitativo
- solo 1 utente su 3 che ha necessità di ricovero ordinario o in urgenza riesce ad accedere ad un reparto di NPIA
- solo 1 utente su 10 riesce a effettuare il passaggio a un servizio per l'età adulta
- solo una parte degli interventi erogati riescono a essere in linea con le evidenze scientifiche

a fronte di:
- un aumento medio degli utenti seguiti dai servizi di NPIA del 7% l'anno
- un aumento complessivo degli utenti seguiti negli ultimi 5 anni del 45%
- un aumento degli accessi di adolescenti con acuzie psichiatrica in Pronto Soccorso del 21% nell'ultimo anno
- un aumento dei ricoveri di adolescenti con diagnosi psichiatrica del 28% nell'ultimo anno
- un'elevata disomogeneità nelle risposte e nell'organizzazione dei servizi di NPIA nelle diverse Regioni italiane
- l'assenza di un sistema informativo e di monitoraggio
- un costante calo del personale

Negli ultimi anni si è evidenziato un rilevante incremento delle richieste alle Unità Operative (UO) di NPIA, e un rapido cambiamento nella tipologia di utenti e famiglie e dei loro bisogni. Sono in aumento sia le richieste per i disturbi dello sviluppo (quali l'autismo, la dislessia e i disturbi del linguaggio), sia le richieste per utenti con disabilità, disturbi neurologici o psichiatrici di rilevante gravità e complessità.
Genitori, pediatri e insegnanti sono più attenti e informati, e si accorgono precocemente di segnali che indicano che qualcosa non sta funzionando nello sviluppo neuropsichico del bambino, e sono consapevoli che oggi possono essere attuati interventi efficaci.
Sono aumentati i comportamenti dirompenti, spesso resi esplosivi dal contemporaneo incremento dell'abuso occasionale di sostanze, che assume un ruolo significativo sia nella slatentizzazione del disturbo psichiatrico che nella complessità della sua gestione.
Sono comparse nuove modalità con le quali si manifesta il disagio psichico, attraverso la dipendenza da internet, l'isolamento in casa, l'aggregazione in bande e molte altre forme. Sono sempre più numerose le condizioni che pongono i ragazzi a maggior rischio per la salute mentale, come la presenza in famiglia di un disturbo psichiatrico o di gravi problemi di salute, l'adozione, la migrazione, la guerra o altre situazioni che determinano storie di vita altamente traumatiche.
È contemporaneamente diminuita la tenuta del sistema familiare e ambientale complessivo, più frammentato e isolato dal contesto e gravato dalla presenza di criticità lavorative ed economiche, in particolare quando è necessario assistere in modo intensivo e prolungato un figlio con patologia psichiatrica grave e/o disabilità complessa.
Sono aumentate le situazioni nelle quali l'intervento dei servizi di NPIA è richiesto dall'Autorità Giudiziaria, sia sul versante amministrativo sia, in seguito al passaggio della Sanità penitenziaria al sistema sanitario nazionale, sul versante penale.
Inoltre alcune recenti normative come la Legge 170 relativa ai disturbi specifici d'apprendimento e le circolari ministeriali sui Bisogni Educativi Speciali hanno aumentato ulteriormente le richieste, anche al fine di ottenere un maggiore supporto a scuola in un momento di grande difficoltà del sistema scolastico.

Affrontare le malattie croniche e multiproblematiche dello sviluppo del bambino e dell'adolescente richiede un modello assistenziale integrato tra ospedale e territorio, nell'ambito di una rete specialistica dedicata, che eroghi percorsi di cura complessi e in continua trasformazione alla luce dei rapidi cambiamenti nelle neuroscienze, immunologia, neurologia, psichiatria, genetica, neuropsicologia e più in generale nella medicina basata sulle evidenze. Elemento cruciale, oltre alla partecipazione attiva delle famiglie e degli utenti, è la stretta integrazione tra UO di NPI senza posti letto (radicate tra territorio e ospedale e in rete con le strutture semiresidenziali e residenziali terapeutiche), UO ospedaliere di secondo livello con un numero limitato di posti letto (essenziali per gestire i momenti di acuzie, le fasi iniziali di esordio della malattia e le fasi di riacutizzazione), e pochi Centri di altissima specializzazione a proiezione nazionale, IRCCS e poli universitari, essenziali per patologie di particolare rarità o complessità, come uniche strutture in grado di gestire in appropriatezza i protocolli diagnostici e terapeutici più innovativi.
Questi ultimi sono oggi già in parte disponibili e si espanderanno sempre più nel prossimo futuro, dai farmaci basati sulla natura fisiopatologica a livello molecolare per alcune malattie, alla medicina rigenerativa nelle lesioni precoci del sistema nervoso, ai biomarcatori per la diagnosi precoce di malattie neurologiche e psichiatriche, per monitorare l'andamento della malattia e l'efficacia di trattamenti innovativi, agli interventi di telemedicina e teleriabilitazione.
La componente territoriale, a elevata integrazione con le componenti educative e sociali oltre che con quelle ospedaliere, rappresenta da sempre il fulcro organizzativo della rete e la sede principale per la riabilitazione e la presa in carico di lungo periodo degli utenti, nella costante attenzione a evitare istituzionalizzazioni e ricoveri, con risultati molto positivi in termini di costo-efficacia.

Nell'ambito dei servizi per i disturbi neuropsichici dell'età evolutiva, l'Italia ha quindi ottimi modelli e buone normative (unico Paese al mondo che mantiene integrate neurologia, psichiatria, neuropsicologia e riabilitazione dell'età evolutiva, nell'ottica che bisogna guardare al bambino nel suo insieme e che le disabilità vanno trattate come problemi dello sviluppo mentale e non come distur-

bi di singole funzioni; scarsissima ospedalizzazione ecc.). Le normative non sono però sempre applicate e vi sono ampie disuguaglianze intra- e inter-regionali. A fronte di Regioni nelle quali è stato creato negli anni un adeguato sistema di servizi di NPIA ed è almeno parzialmente garantita ai bambini e alle famiglie la presa in carico e la terapia, con una prevalenza di accesso tra il 6 e l'8%, ve ne sono molte altre nelle quali mancano le strutture e la prevalenza trattata si colloca molto sotto il 4%, e in alcune Regioni i Servizi di NPIA sono addirittura recentemente spariti come tali perdendo progressivamente la loro valenza di specifico riferimento sanitario. In particolare mancano i reparti per i ricoveri e le strutture semiresidenziali e residenziali terapeutiche, nonché a volte anche gli stessi servizi territoriali e/o il personale, o non sono comunque previste tutte le figure multidisciplinari necessarie per i percorsi terapeutici.
In relazione al ricovero, a differenza di quanto avvenuto per altre discipline, si è già determinato negli anni un significativo sottodimensionamento del numero di letti di ricovero ordinario per gli utenti con disturbi neuropsichici in età evolutiva, sia a livello nazionale che regionale (in 7 Regioni non c'è nessun posto letto di NPIA), sia sul versante dei disturbi psichiatrici, acuti e non acuti, che dei disturbi neurologici, dell'epilessia, della disabilità complessa e delle malattie rare. Si è erroneamente ritenuto che in alcune situazioni si possa fare a meno del ricovero ospedaliero per le patologie neuropsichiche dell'età evolutiva, o che si possano sempre utilizzare letti di specialità diverse dalla NPIA. Esistono invece moltissime situazioni nelle quali il ricovero ordinario, generalmente breve, è indispensabile per fini diagnostici e/o terapeutici e richiede competenze specialistiche che possono essere gestite solo nell'ambito di reparti NPIA. Sono attualmente presenti in tutto il territorio nazionale solo poco più di 300 letti di ricovero ordinario di NPIA, di cui 79 per ricoveri psichiatrici: conseguentemente solo un terzo dei ricoveri ordinari riesce ad avvenire in reparto di Neuropsichiatria infantile, mentre gli altri avvengono in reparti non adatti, compresi quelli psichiatrici per adulti, con il rischio di percorsi di cura inefficienti e inefficaci, e di cronicizzazione. Inoltre, la recente normativa (DM 70) ha determinato una ulteriore riduzione dei posti letto di ricovero ordinario di NPIA. Oltre che grave per l'utenza, la riduzione dei posti letto rende assai difficoltoso garantire i livelli di attività minimi previsti per la Scuola di Specializzazione in Neuropsichiatria dell'Infanzia e dell'Adolescenza.
Per quanto attiene alle strutture residenziali terapeutiche non esistono dati nazionali, ma si segnala un aumento di circa il 10% annuo degli inserimenti, che spesso avvengono lontano dalla residenza dei ragazzi a causa della carenza di strutture, con lunghe attese e difficoltà nel reinserimento nel proprio territorio.
Tra le criticità emergenti, al compimento della maggiore età i pazienti in carico ai servizi di NPIA dovrebbero venire indirizzati ad analoghi servizi sanitari per l'adulto. In realtà, in circa due terzi dei casi non sono previsti servizi per l'adulto che garantiscano adeguate risposte sanitarie: è il caso delle persone con disturbi specifici di apprendimento, e ancor più delle persone con disabilità o con autismo, che dopo i 18 anni sono spesso considerate esclusivamente di competenza sociale e che quando presentano problemi sanitari complessi trovano risposte puntiformi per specifiche sintomatologie. Assai difficoltoso è anche il passaggio verso i servizi di psichiatria dell'adulto per gli adolescenti con disturbi psichici gravi: mancano procedure standardizzate e la transizione riesce ad avvenire solo per pochi utenti, con il rischio di un vero e proprio abbandono dell'utente e della sua famiglia.
Ancor più, continua a mancare un sistema informativo specifico nazionale per i disturbi di NPI, a fronte della variabilità dei (pochi) sistemi esistenti regionali[1] nelle modalità di raccolta, analisi e diffusione dei dati, nonché del frequente ritardo nella loro pubblicazione[2], che rendono difficoltoso il monitoraggio nel tempo sia dell'accesso ai servizi che ancor più dei percorsi di cura effettivamente erogati, della loro appropriatezza e degli esiti ottenuti. Inoltre, nessuna delle rilevazioni regionali esistenti include i dati provenienti da altri servizi coinvolti nella cura dei disturbi neuropsichici dell'età evolutiva, quali ad esempio i servizi di riabilitazione, che in alcune Regioni assumono un ruolo particolarmente rilevante. Diviene così impossibile valutare se le disomogeneità di risposte tra territori adiacenti sia legata alla presenza di altri servizi, e quindi apparente, o a effettive carenze locali trasversali a tutte le tipologie di servizi.
A fronte della sempre maggiore necessità di criteri di equo accesso alle cure, di governo di spesa e di risorse e dell'appropriatezza negli interventi sanitari

SI SEGNALA

- l'ormai storica assenza di investimenti in un settore fondamentale per la salute della popolazione;
- l'aumento delle disuguaglianze intra- e inter-regionali e la conseguente non equità di risposte per i bambini e i ragazzi e per le loro famiglie legati alle politiche di *spending review* che permeano tutti gli atti normativi e l'attuale riassetto istituzionale operato da molte Regioni;
- l'insufficiente stanziamento di risorse da parte delle Regioni, che determina in molti servizi rilevanti difficoltà a intercettare i reali bisogni e a garantire le risposte previste dai LEA appena ridefiniti;
- la perdurante mancanza di indicazioni su come poter tradurre nella pratica gli interventi che dovrebbero essere inclusi nei LEA;
- la necessità di indirizzare le risorse in senso organizzativo con precisi atti normativi regionali, che affrontino il tema dell'organizzazione dei servizi pubblici di NPIA e di come derogare ai vincoli di spesa per assumere il personale mancante e garantire la formazione permanente necessaria a erogare interventi basati sulle evidenze.

A fronte di quanto descritto,

CHIEDIAMO

una ridistribuzione della spesa sanitaria che, evitando gli sprechi che esistono in altri settori, riesca a colmare i vuoti enormi che esistono in questo ambito e garantisca finalmente risposte appropriate, eque e tempestive per i bambini e gli adolescenti con disturbi neuropsichici, per garantire non solo la loro salute e quella delle loro famiglie, oggi e soprattutto in proiezione per il loro futuro, ma il benessere di tutta la società.

Più nello specifico, chiediamo:

1. Al **Ministero della Salute** e alle **Regioni** di garantire, attraverso adeguati investimenti di risorse e la condivisione di modelli organizzativi, la presenza omogenea in tutto il territorio nazionale di un sistema integrato di servizi di Neuropsichiatria infantile, sia in termini di professionalità che di strutture, territoriali e ospedaliere, in grado di operare in coerente sinergia con pediatri, pedagogisti clinici, psicologi consultoriali e altre figure professionali riconosciute, così da garantire i necessari interventi non farmacologici e/o farmacologici e un approccio il più possibile multidisciplinare ai disturbi neuropsichici dell'infanzia e dell'adolescenza, riferendo annualmente l'esito dell'azione alla Commissione Parlamentare per l'Infanzia e l'Adolescenza, alla Commissione Igiene e Sanità del Senato e alla Commissione Salute della Conferenza delle Regioni;
2. Al **Ministero della Salute**, alla **Commissione Salute della Conferenza delle Regioni**, all'**Istituto Superiore di Sanità**, ai **Servizi di Neuropsichiatria** di strutturare un adeguato sistema di monitoraggio della salute neuropsichica dei bambini e degli adolescenti, dello stato dei servizi a essa dedicati e dei percorsi diagnostici e assistenziali dei disturbi neuropsichici nell'età evolutiva, riferendo annualmente l'esito dell'azione alla Commissione Parlamentare per l'Infanzia e l'Adolescenza, alla Commissione Igiene e Sanità del Senato e alla Commissione Salute della Conferenza delle Regioni.

[1] *Sono presenti dati da Piemonte, Emilia Romagna, Toscana, Lombardia, Veneto.*
[2] *I dati disponibili sono in genere relativi alla situazione di 2-5 anni prima.*

QUANDO IL NEUROPSICHIATRA DOVREBBE SPORCARSI LE MANI...

Il ruolo professionale e la prassi operativa del neuropsichiatra infantile (NPI) non possono oggi prescindere da alcuni dati ormai ben noti. Le patologie psichiatriche, neurologiche e l'abuso di sostanze rappresentano attualmente il 13% del *global burden of disease* dell'intera popolazione mondiale. Più del 50% dei disturbi neuropsichici dell'adulto ha un esordio nell'infanzia o in adolescenza, spesso molti anni prima della manifestazione del disturbo conclamato, e quindi con concrete possibilità di interventi preventivi. Circa un bambino o adolescente su 5 ha problemi relativi alla salute mentale.
La prima conseguenza di questi dati è l'incremento delle richieste di intervento, influenzato non solo dal cambiamento delle condizioni attuali di vita, ma anche dalla maggiore sensibilità di pazienti, famiglie e clinici, che ha abbassato la soglia della richiesta di intervento. La seconda conseguenza è il cambiamento della tipologia delle richieste prevalenti, legato sia ai cambiamenti di elementi di contesto che rappresentano altrettanti fattori di rischio psicopatologico (es. l'uso di sostanze, le migrazioni, la crisi economica e la povertà, il ruolo di internet e dei dispositivi elettronici ecc.), ma anche dalla accresciuta sensibilità dei clinici sul ruolo del neurosviluppo non solo come base della psicopatologia, ma anche come elemento chiave nella vulnerabilità alla psicopatologia, quindi mediatore dell'effetto di potenziali fattori di rischio sempre più frequenti e diffusi. Se altre figure professionali (psicologi, sociologi ecc.) hanno un ruolo centrale nella comprensione dei fenomeni sociali e delle loro influenze individuali, il ruolo del NPI dovrebbe essere quello del regista principale nel momento in cui questi fenomeni accedono, con varie modalità, al livello della patologia.
Infatti un tale livello di complessità implica un modello interpretativo che tenga conto: 1) delle determinanti biologiche alla base della patologia, ma anche della vulnerabilità; 2) delle determinanti sociali, che condizionano gran parte dei fattori di rischio, ma che rappresentano anche il contesto in cui la patologia si manifesta, condizionandone la espressione clinica; 3) delle determinanti psicologiche, che condizionano il modo in cui ciascun individuo declina in modo specifico meccanismi biologici e sociali.
L'interazione tra questi aspetti è oggi più comprensibile sulla base della conoscenza dei meccanismi della plasticità neurale. Se il cervello si modifica rapidamente nei guidatori di taxi o nei violinisti, a seguito della loro attività quotidiana, possiamo comprendere come eventi spesso drammaticamente più intensi, quali esperienze traumatiche di varia intensità, possano scolpire il cervello, e quindi le emozioni e i comportamenti, anche se in modo diverso nei diversi individui, a seconda delle loro specificità e vulnerabilità.
Questi fenomeni hanno una diffusione trasversale, in ampi strati della popolazione, per cui è necessario il coinvolgimento e la collaborazione di professionisti (e il pediatra è in questo caso la figura chiave) che possono accedere, con possibilità di precoce riconoscimento, a grandi numeri di bambini e adolescenti, per individuare i casi a rischio o quelli che per diversi motivi, es. psicologici, sociali, potrebbero non accedere al NPI. Il pediatra può ampliare la visuale, individuando le aree grigie o marginali. Ma esiste anche una proiezione longitudinale, nelle diverse fasi della vita dall'infanzia all'adolescenza alla transizione verso l'età adulta. In questa dinamica lo psichiatra è l'inevitabile interfaccia con la quale interagire sia in termini di prevenzione (risalire all'indietro per individuare le radici della patologia dell'adulto) che di continuità delle cure, per evitare discordanze e fratture nelle modalità della presa in carico. Queste figure professionali devono inevitabilmente lavorare fianco a fianco, nella gestione della patologia, in parallelo con altre figure che di volta in volta possono entrare in gioco (psicologi, servizi sociali, terapisti, educatori ecc.), con la massima armonia e coordinazione possibile, per evitare ulteriori fratture.
Ma la complessità implica una ulteriore organizzazione, il più possibile armonica, tra chi fronteggia il primo livello della necessità, quello del contatto diretto con l'individuo, la famiglia, la scuola; il secondo livello di complessità per le necessità aggiuntive, es. interventi ospedalieri; e il terzo livello per le situazioni di massima complessità diagnostica e terapeutica. Il rischio di discordanze e fratture tra questi livelli è spesso evidente, mentre sarebbe necessaria la condivisione dell'approccio, non solo sul piano etico e professionale, ma anche su quello individuale e per così dire emozionale, sia pure nelle specificità della diversa collocazione operativa.
In questa complessa dinamica intra- e interprofessionale, trasversale e longitudinale, per la tutela della salute mentale dell'età evolutiva, il NPI dovrebbe avere un ruolo centrale, di grande impatto psicosociale. Al contrario si è assistito in questi anni a una marginalizzazione graduale di tale ruolo. Il NPI viene spesso interpretato come l'anello debole della catena, talora come il capro espiatorio delle carenze, trattato non raramente con sufficienza se non con fastidio dalle figure con cui dovrebbe interagire, pediatri, psichiatri, psicologi, tutte categorie numericamente (e politicamente) ben più rappresentate. Tale marginalizzazione ha cause esogene ed endogene che si potenziano reciprocamente. Le cause esogene sono ben chiare e sono state sintetizzate in un documento della Società Italiana di Neuropsichiatria dell'Infanzia e dell'Adolescenza (SINPIA), pubblicato su queste pagine in un numero precedente (*Medico e Bambino* 2018;37(3):151-2). Se i modelli operativi e le normative vigenti appaiono a prima vista teoricamente adeguati, essi sono spesso applicati solo in parte, ad es. con enormi disuguaglianze regionali. Alcune Regioni hanno fatto sparire i Servizi di NPIA nella loro specifica identità e valenza, c'è un sottodimensionamento del numero di letti di ricovero ordinario (in 7 Regioni non c'è nessun posto letto di NPIA), in tutto il territorio nazionale esistono solo poco più di 300 letti di ricovero ordinario di NPIA, solo 79 per ricoveri psichiatrici, i ricoveri avvengono non raramente in reparti non adatti (Pediatria, Psichiatria), nelle strutture residenziali c'è un aumento di circa il 10% annuo degli inserimenti, spesso lontano dalla residenza dei ragazzi, con lunghe attese e difficoltà nel reinserimento. Si crea quindi il paradosso di una crescente capacità e sofisticazione nel riconoscere i problemi, nel catalogarli e di definirne la storia naturale, ma senza avere gli strumenti per mettere in atto le strategie di intervento più adeguate. Questa realtà, ormai più volte denunciata, non richiede ulteriori commenti ma un sostegno da tutte le parti in causa.
Tutto questo è esogeno. E l'endogeno?
"Quando il neuropsichiatra infantile dovrebbe sporcarsi le mani…", questa è la proposta di riflessione al NPI da parte di questo giornale. Cosa significa sporcarsi le mani? A parte il fatto che le mani di molti NPI sono già nobilmente sporche, perché il vero lavoro sporca, possiamo vedere come ulteriormente sporcarsi, ma anche trovare dei modi per poi pulirsi.
Innanzitutto non possiamo essere portati a scegliere tra coinvolgimento in prima linea (professionale ed emozionale) e ri-

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gore metodologico. Sporcarci le mani, immergerci nell'intensità dei problemi, non deve rappresentare un alibi per rinunciare a un contesto di rigore metodologico e scientifico, a tutti i livelli della nostra operatività. Il progresso scientifico ha portato un cambiamento nel modo di concettualizzare le malattie, di comprendere come funziona il neurosviluppo, la plasticità neurale, l'epigenetica, e questo cambiamento dello scenario scientifico deve avere conseguenze nella prassi, un sistema unificante che nobilita e unifica chi lavora in trincea e chi lavora in un Istituto di ricovero e cura a carattere scientifico. Esistono situazioni ambientali patogene che di per sé sono in grado di minare o disorganizzare l'equilibrio mentale, ma la stragrande maggioranza di quelle che sono sotto i nostri occhi sono meno estreme, ma diventano patogene se incontrano una vulnerabilità, ed esistono vulnerabilità sociali ma anche biologiche. Noi dobbiamo essere pronti e tempestivi nel conoscere e gestire le vulnerabilità biologiche e i meccanismi con cui operano, e dobbiamo anche saper usare scientificamente e laicamente tutti gli strumenti diagnostici e terapeutici, biologici e sociali, per modulare tali vulnerabilità. È stato giustamente detto che la società di oggi ha molti stimoli complessi, che per i vulnerabili diventano potenzialmente distruttivi. Mentre ci affidiamo al rigore metodologico e scientifico, dobbiamo ricordarci che parlare con i pazienti, condividere le loro sofferenze, lavorare con le famiglie ("il lavoro sporco"), non significa perdere la nostra professionalità e scientificità di medici, o diventare medici di serie B, significa condividere tra tutti il lavoro sporco, e non lasciarlo a qualcun altro, sapere che nel momento in cui modifico un assetto familiare o favorisco una integrazione sociale o scolastica, incido sul cervello di un bambino e di chi lo segue, esattamente come faccio se gli somministro un farmaco, e talvolta fare entrambe le cose è anche meglio (quindi abbattere steccati e pregiudizi). Significa evitare il concetto che se c'è una malattia lo curo io, se il problema è sociale o psicologico (e quando non lo è?) se ne occupi qualcun altro (chi?), e questa figura in genere è implicitamente meno nobile. Significa avere il coraggio di condividere, senza essere paranoicamente barricati sulla difesa del territorio (i NPI, i pediatri, gli psichiatri, gli psicologi ecc.), tra tendenza alla delega di fastidi e difesa di (ipotetici) previlegi. Significa conciliare specificità, stratificazione e integrazione e condivisione, in ogni strato e in ogni competenza professionale.

Questo approccio consente di integrare nel rapporto con il paziente chi "è malato" e chi "sta male", la malattia e la sofferenza. A volte abbiamo a che fare con bambini (e famiglie) che non sono tanto malati, ma che stanno invece molto male, e noi abbiamo il dovere di occuparci sia degli uni che degli altri, senza fratture e deleghe, perché spesso i meccanismi di fondo sono ampiamente sovrapposti, poiché chi sta male ha ampie possibilità di diventare malato, e chi è malato lo è indipendentemente dal fatto che prima stava solo molto male. Le conoscenze attuali ci consentono oggi di inserire gli uni e gli altri in uno stesso modello interpretativo, scientificamente rigoroso, che mette insieme l'aspetto biologico, psicologico e sociale senza fare dicotomie ed erigere steccati che sono presenti solo nella nostra testa, e non nella realtà sociale e scientifica.

Un esempio di tutto questo è ad es. la comprensione e gestione delle situazioni traumatiche, sempre più frequenti, consapevoli che la componente biologica, la componente psicologica e la componente sociale sono le tre facce della stessa medaglia; noi possiamo scegliere il nostro ambito prevalente di interesse, ma se dimentichiamo anche per un momento gli altri aspetti non siamo dei buoni medici.

La gestione dei comportamenti dirompenti, l'abuso di sostanze, la dipendenza da internet, l'isolamento, le bande, ma anche le adozioni, le migrazioni e le guerre, tutte quelle le situazioni che determinano storie di vita più o meno esplicitamente traumatiche, implicano un lavoro di rete con genitori, insegnanti, pediatri, psichiatri, servizi sociali, amministrazioni pubbliche, autorità giudiziaria. Tutto questo ha implicazioni biologiche, psicologiche, sociali che richiedono non solo modelli interpretativi elastici, ma anche modelli assistenziali integrati, dalle realtà radicate nel territorio ai Centri di alta specializzazione a proiezione nazionale, per protocolli diagnostici e terapeutici più innovativi. Accanto a modelli interpretativi e modelli assistenziali, sono necessari modelli cooperativi integrati, perché a seconda della specifica situazione una figura è centrale e le altre di supporto, senza che questo voglia dire una limitazione o una rinuncia, perché tutti devono saper sporcarsi le mani. Se questo accade, se lo sporco è lo stesso, è molto più facile parlare di integrazione degli approcci. E il sapone migliore per tali situazioni è proprio l'organizzazione di una rete integrata, ma forse ancor più, per ciascuno di noi a diverso titolo attori di tale ruolo nello scenario della complessità, la consapevolezza o almeno la sensazione (cognitiva ed emozionale) di essere parte di tale organizzazione.

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Iniziativa nell'ambito del Progetto di Neuropsichiatria dell'Infanzia e dell'Adolescenza
(Delibera n. 406 - 2014 del 04/06/2014 Progetti NPI)
Il Progetto è realizzato con il contributo, parziale, della Regione Lombardia
(in attuazione della D.G. sanità n. 3798 del 08/05/2014, n. 778 del 05/02/2015, n. 5954 del 05/12/2016 e N. 1077 del 02/02/2017) Capofila Progetto: UONPIA Azienda Ospedaliera "Spedali Civili di Brescia" "*Percorsi diagnostico-terapeutici per l'ADHD*".

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