

PANDA

Journal Watch Oct - Nov 2019

Autism

Autism spectrum disorder. Catherine Lord, Mayada Elsabbagh, Gillian Baird, Jeremy Veenstra-Vanderweele. *Lancet* 2018; 392: 508-20

This seminar in the *Lancet* represents a comprehensive review of research published over 10 years between 2007 and 2017. A broad range of aspects pertaining to autism diagnosis in different age groups, screening, trajectories and predictors of outcome and treatment are discussed. The authors focused on summarizing current research to assist clinicians in providing guidance and accurate information to families faced with a diagnosis of autism.

The first South African Introductory Workshop on the Early Start Denver Model (ESDM) was held in Bloemfontein at the end of September.

ESDM is an autism intervention for young children that is based on naturalistic developmental applied behavior analysis. Earlier autism diagnosis and the emphasis on early intervention has led to the development of “Naturalistic Developmental Behavioral Interventions” (NDBI) of which ESDM is an example. The next article published in 2015 in the *Journal of Autism and Developmental Disorders* describes the development and theory behind NDBIs.

Naturalistic Developmental Behavioral Interventions: Empirically validated treatments for autism spectrum disorder. Laura Schreibman, Geraldine Dawson, Aubyn C Stahmer, et al. *J Autism Dev Disord* 2015; 45: 2411-2428

NDBIs are described as a new generation of early intervention models that utilize more “naturalistic” approaches and developmental orientations than traditional applied behavioral analytic approaches. Early Start Denver Model (ESDM), Incidental teaching (IT), Joint Attention Symbolic Play Engagement and Regulation (JASPER), Pivotal Response Treatment (PRT) are examples of these interventions which were established independently but share core features. All follow typical developmental sequences more closely and emphasize play, social interaction and communicative initiation on the part of the child, as well as natural reinforcement with intrinsic rewards. The authors state that naturalistic behavioral interventions for autism have demonstrated special promise

when children are very young and are less likely to have established patterns of maladaptive behavior. However, the treatment remains intensive and requires 15 -20 hours or more per week with a trained therapist in a one-to-one setting. This limits availability especially in resource poor settings and ongoing research is needed.

A multisite randomized controlled two-phase trial of the Early Start Denver Model compared to treatment as usual. Rogers S.J., Estes A., Lord C., et al. *J Am Acad Child Adolesc Psychiatry* 2019; 58(9): 853-865

Editorial: Trials and tribulations in early autism intervention research. Chapman T. *J Am Acad Child Adolesc Psychiatry* 2019; 58(9): 846-848

In an editorial by Tony Chapman in the September 2019 issue of the Journal of the American Academy of Child and Adolescent Psychiatry, findings of a multi-site RCT on the Early Start Denver Model that was published in the same journal is discussed.

The current study is compared to a similar small -scale (n=48) study on the ESDM that was published by Dawson et al in Pediatrics in 2010. The original study found improvements in IQ and adaptive behavior (on both measures largely in the language/communication domains) and marginal improvements in diagnostic classification but no differences on continuous measures of autism severity.

The present study which included a larger sample size (n=118) and multiple sites, showed a partial replication of the language findings of the initial 2010 study in that only 2 of the 3 sites showed significant language development. Secondary analysis showed no significant differences between the ESDM and community groups regarding developmental quotient, autism severity or adaptive behavior.

The editorial goes on to discuss the difficulties in assessing the efficacy of this type of intervention as well as measurement of outcomes in autism. More research is needed.

ADHD

Clinical Practice Guideline for the Diagnosis, Evaluation and Treatment of Attention-Deficit/ Hyperactivity Disorder in Children and Adolescents. Wolraich ML, Hagan JF, Allan C, et al. *Pediatrics.* 2019;144(4): e20192528

The updated AAP guidelines for managing ADHD in children aged 4 to 18 years were published in October 2019. The new guideline is based on the DSM 5 criteria and research that was published between 2011 and 2016. There are few dramatic changes

from the 2011 guideline except for an additional key action statement about the diagnosis and treatment of comorbid conditions in children and adolescents with ADHD.

Cerebral Palsy

Executive function and general intellectual function in dyskinetic cerebral palsy: Comparison with spastic cerebral palsy and typically developing controls. Laporta – Hoyos et al. European Journal of Paediatric Neurology 23 (2019) 546 -559

The aim of this study from Spain was to describe intellectual and executive function (EF) in people with dyskinetic cerebral palsy (DCP), by comparing their performance with that of: 1) Typically developing controls (TDC) matched for age and sex, and 2) participants with spastic cerebral palsy (SCP) matched for age, sex, term/preterm and gross motor function classification system (GMFCS)

The article reports on several previous studies assessing the association between spasticity/dyskinesia and cognition, however comparison between studies are difficult as different measures of assessing cognition in participants were used and other important variables such as motor severity and prematurity were not considered in all the studies. Results are therefore conflicting.

Results of this study showed that both CP groups had lower intelligence than TDC and performed poorer in almost all EF tasks. Intelligence was higher in DCP than SCP ($z = -2.51, p=0.01$). Participants with DCP also performed significantly better in goal – setting tasks ($z = 2.27, p=0.03$) and information processing ($z = -2.45, p= 0.01$) than those with SCP

The authors conclude that although their results might not be representative of the general CP population for both SCP and DCP, it does indicate that cognitive function may be underestimated in DCP and observations made in SCP can't be generalized to dyskinetic forms. Proper assessment of cognitive function in various CP sub-types is important for prognosis and appropriate educational support.

Anthropometric measurements to identify undernutrition in children with cerebral palsy.
Ibrahim Duran et al. *Developmental medicine and child neurology* 2019; 61: 1168-1174

Undernutrition in children with CP is a common and important comorbidity affecting health, motor function and quality of life.

The European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) recommended in 2019 that 'the assessment of nutritional status in children with neurological impairment should not be based solely on weight and height'. They recommend the measurement of body fat percentage as an indicator of long-term energy-balance. This is best done with whole-body dual-energy x-ray absorptiometry (DXA).

The aim of this study was to evaluate the diagnostic performance of anthropometric indicators (BMI and height for age) compared to DXA body fat percentage to identify undernutrition in children with CP. The investigators used WHO BMI for age less than -2 z-score and official growth standards for German children, height for age less than -2 z-score as cut-off values for anthropometric indicators of undernutrition. As there is no accepted DXA-based definition of undernutrition, the investigators used a cut-off of -2 z-score. They recommended further longitudinal studies to determine the association between health outcomes and body fat percentage in children to establish reliable cut-off values.

Three-hundred and twenty-nine children with CP (181 male and 148 female) were evaluated. Findings indicated BMI had a high specificity but very low sensitivity in identifying undernutrition in children with CP. Undernutrition assessed by BMI was overestimated in children with CP versus when assessed by DXA. Height for age z-scores had even lower sensitivity and specificity and seemed a poor predictor of undernutrition in children with CP.

The investigators concluded that their findings supported the recommendations made by ESPGHAN.
