CTA Special Topics Series

Autism Spectrum Disorder & Trauma/Neglect: 101

Autism and Autistic Spectrum Disorder (or Autism Spectrum Disorder: ASD) are labels which encompass a wide range of clinical syndromes. Autism has a much narrower clinical definition and appears to have a more distinct neuropathology and set of genetic markers in comparison to the over-inclusive ASD (also referred to in some literature as PDD). Both of these syndromes have been increasing in Western populations. Children who have been severely maltreated, especially those neglected early in life, can present with symptoms which can mimic classic autism but would be more appropriately diagnosed as ASD. It is important to emphasize, however, that in autism, there is no indication that parental neglect is an etiological factor.

In contrast, the Autism Spectrum Disorder (ASD) label often can be applied to capture some of the impact of severe neglect. Indeed, ASD or PDD following severe neglect is not uncommon (see below). ASD (in maltreated and non-maltreated groups) can present with a wide range of problems ranging from completely functionally impaired to high-functioning. Those who are high functioning are often given a diagnosis of Asperger's instead of autism, and the biggest difference between the two diagnoses is that those with Asperger's usually do not show language delay—social impairment is the biggest issue. The prevalence of ASD is about 1 in 150, with a male/female ratio of 4:1.

The most common symptoms of ASD are impaired theory of mind (an inability to understand that others are capable of independent thought), a lack of interest interpersonal interaction, repetitive, stereotypic behaviors such as hand flapping, sensory sensitivities such as low tolerance for sunlight or certain tactile sensations, language delay, hyperactivity, impulsivity, and in some cases, aggression. However, few generalizations can be made, because every person with an ASD has a different symptom profile.

The etiology of autism and ASD is an area of active investigation and ongoing debate. The general consensus is that autism is a genetic disorder that occurs due to polygenic interactions. However, in some cases symptom expression may be exacerbated by environmental stressors, such as prenatal toxins or vitamin deficiencies. Little evidence has linked autism to vaccines containing mercury, though this is a common assumption. Similar polygenetic vulnerability with interactive developmental insults are hypothesized in the etiology of ASD. As mentioned above, developmental neglect can be a major contributor to the manifestation of ASD and autism-like symptoms.

Treatment is difficult and often complicated by the co-occurring distress and stress response over-reactivity seen in ASD. The inability to maintain a consistent internal state and the vulnerability to various sensory disintegrating experiences can make potentially effective learning interactions inefficient. Further, recent research suggests an inefficiency in the capacity of key neural networks in the cortex to make new synaptic connections; more repetitions are required to effect the same neurophysiological change. This, of course, parallels the clinical and caregiving experience. Acquisition of new skills is agonizingly slow and requires remarkable patience and many more repetitions than with non-ASD children.

Appropriate psychotropic medications may help decrease aggression and hyperactivity, facilitating other treatments, such as intensive behavioral treatments. However, medications do not always work for those with ASD in the same way they work for other populations, so prescriptions should be issued carefully. Intensive behavioral interventions, beginning earlier in life, are useful. Interventions that involve parents are most effective, as they teach parents how to communicate with their children as well as provide

psychoeducation and support for the family.

Diagnoses of ASD should only be given after detailed histories of children are documented. Language delay (even regression of language skills), and poor social skills/withdrawn affect are common in maltreated children; as these are two of the most common symptoms of autism and ASD, misdiagnosis is common. The relational symptoms of ASD are also prevalent in severely neglected and abused children who often have profound attachment problems. The conventional interventions for ASD may not be as appropriate for children who have suffered developmental trauma and neglect. Further, children with ASD are a challenge to parent; they may overwhelm a limited or isolated caregiver's capacity to parent and therefore are more susceptible to abuse than other children. Thus, when symptoms that indicate trauma are observed in children with ASD, co-morbid ASD and PTSD should be considered.

Watch for more on this and related subjects in future CTA Special Topic issues.

Selected Readings on Autism Spectrum Disorder (ASD) & Trauma/Neglect

Erikson, C. A., Posey, D. J., Stigler, K. A., McDougle, C. J. Pharmacologic treatment of autism and related disorders. *Pediatric Annals, 36,* 575-585.
Pharmacologic treatment of autism is presented in terms of four common symptoms: inattention/hyperactivity, repetitive/stereotypic behavior, self-injurious behavior, and social impairment. Detailed research on several types of drugs used for each symptom is reviewed. For the inattention/hyperactivity symptoms, drugs that work for ADHD do not always have the same efficacy with ASD. Psychostimulants show mostly adverse effects, except in those who are high-functioning autistic or have Asperger's. Adrenergic agonists, such as clonidine, show better efficacy, but side effects are common. For the self-injurious behavior and aggressive symptoms, atypical antipsychotics, such as haloperidol and risperidone, have shown the most efficacy. For symptoms such as stereotypical and repetitive behavior, SSRI's have proved helpful, and are effective much in the same way as they are for obsessive-compulsive disorder. Glutamate receptors have been targeted in treatment of symptoms of social impairment. Most aren't effective. This review did not contain any trials where drugs were used simultaneously (i.e. to treat two or more symptoms at a time), and this should be a direction of future research.

Hoksbergen, R., Laak, J., Rijk, K., Dijkum, C., & Stoutjeskijk, F. (2005). Post-institutional autistic syndrome in Romanian adoptees. *Journal of Autism and Developmental Disorders, 35,* 615-623.
The authors of this article noticed behaviors that were similar to autism in children who had been in orphanages in Romania, such as problems relating to others, poor verbal and non-verbal communication, and recurrent, repetitive, and strange behaviors. The interesting distinction is that autism is caused mainly by genetic factors, whereas these symptoms were caused by environmental factors. This phenomenon was named "post-institutional autism" and includes symptoms such as low body weight, appearing younger than one's actual age, regression in language, primitive behavior, self-soothing behavior, and attention/hyperactivity issues. Though more males have autism than females, severely neglected children do not show the same gender split. Rocking and language delays were most common among post-institutionalized children, but these symptoms improved if the children stayed in relationally replete environments for at least 4-5 years. Conclusions include reasons why post-institutional autistic disorder should be added to the DSM-V, and challenges in working with and trying to heal this population.

Hughes, J.R. (2008). A review of recent reports on autism: 1000 studies published in 2007*: Epilepsy & Behavior, 13*, 425-437.

This article includes all aspects of autism, from rising prevalence to treatment. Current prevalence rates are around 1 in 150 and are mostly males. The etiology of autism is discussed in detail, such as possible environmental causes (i.e., mercury), genetic causes (i.e., chromosome abnormalities) and brain abnormalities, such as underconnectivity between neurons in the cortex. Next, characteristics of children with autism are discussed, such as inattention, motor impairments, abnormal eye movements, impaired theory of mind, sensory sensitivity, cognitive impairments, and related medical issues, such as epilepsy. Other developmental disorders that have a similar clinical picture to autism, such as Rett's syndrome and Kleinfelter's syndrome, are discussed and their onset/symptoms are compared to autism. The last section of this article evaluates many different therapeutic options. Options include risperidone for hyperactivity symptoms, acupuncture to promote cognitive alertness, massage to lessen sensory sensitivity, robot toys to help children learn to imitate and recognize basic emotions, behavior therapy, and music, as music seems to help children engage in greeting one another (especially if each child has their own greeting song that the other children must sing to him or her) and interactive play.

Mandell, D. S., Walrath, C. M., Manteuffel, B., Sgro, G., & Pinto-Martin, J. A. (2005). The prevalence and correlates of abuse among children with autism served in comprehensive community-based mental health settings. *Child Abuse & Neglect, 29,* 11359-1372.

Children with developmental disorders such as ASD may be at increased risk for abuse due to their inability communicate their abuse and the decreased likelihood their stories will be believed. The aim of this study was to find prevalence rates and psychological correlates of abuse in those with ASD. About 1 in 5 children were physically abused, and 1 in 6 were sexually abused. Behavioral correlates were similar to children without ASD, and included sexual acting out, running away, suicide attempts, and aggressive behaviors. Results have two major implications. First, because ASD is a mostly genetic disorder, physicians and psychologists may not screen for abuse even when symptoms of abuse are present—they assume the behaviors are attributable ASD. Yet, prevalence rates of abuse in children with ASD are higher than for children without ASD, so abuse should be suspected more often. The second implication is that though children with ASD have different cognitive profiles, their response to trauma is similar to that of other children, and practitioners should not assume that these children are not aware of and impacted by abuse.

Seida, J. K., Ospina, M. B., Karkhaneh, M., Hartling, L., Smith, V., Clark, B. (2009). Systematic reviews of psychosocial interventions for autism: An umbrella review. *Developmental Medicine & Child Neurology, 51,* 95-104.

Treatment of autism is impeded by several factors: divergent clinical theories used to conceptualize treatment (e.g., psychoanalytic and behavioral), divergent conceptualizations of etiology, and the cost of treatment—one child requires much structure and attention. This article reviewed outcome studies of five categories of interventions: behavior therapy (e.g. applied behavior analysis), communication-enhancing interventions, parent-mediated interventions, sensory motor interventions, and social skills interventions (p. 97). Studies that measured the efficacy of facilitated communication (which is when a person directs the motion of the autistic person's limbs and thus "teaches" them to point, etc.) showed that it doesn't work. Parent-mediated interventions, which include teaching the parent about autism and teaching them communication strategies, are useful because they reduce maternal depression rates and increase parent-child interaction. Sensory interventions such as auditory integration strategies are not supported by research, though music improves communication skills. Behavioral approaches show efficacy, but not with

every child, and controlled settings are hard to obtain in the real world. This study concludes that treatment (preferably early treatment) as opposed to no treatment is preferable, even though research is inconclusive as to which strategies are best. Further, because ASDs are so broad, strategies that work for one individual may not generalize to others.

Taylor, E. & Rogers, J. W. (2005). Practitioner review: Early adversity and developmental disorders. *Journal of Child Psychology and Psychiatry, 46,* 451-467.

Autism is probably a genetic disorder, but whether or not someone develops autism depends on polygenic interactions and ways in which genes and the environment interact. Authors argue that early stress has a large influence on developmental disorders. First, toxic influences during pregnancy such as alcohol and smoking are discussed, and these toxins correlate with impulsivity and low IQ. Second, perinatal risk factors such as low birth weight are examined, which are associated with low IQ and ADHD symptoms. Third, toxic chemicals in the environment are evaluated, such as lead (which correlates with low IQ and hyperactivity) and mercury (which impedes brain development). Fourth, influences of infections (such as HIV), vitamin deficiencies (such as zinc and iodine) and head injury on developmental pathology are detailed. Finally, neglect and malnutrition are discussed. Malnutrition leads to emotional, cognitive, and behavioral deficiencies, and not all of these are treatable. Neglect causes severe social and communication impairments that mimic symptoms of autism, but these impairments can improve if the child is placed in a positive environment. Thus, a child's history should be considered before diagnoses of autism or other developmental disorders are given to children; those with autism will require different interventions than neglected/malnourished children with symptoms that resemble autism. Early adversity may interact with genes and cause genetic disorders, such as autism. However, what seems like autism is not always autism.

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