

## **Early Intensive Behavioral Intervention for Young Children with Autism**

### Background

Autism Spectrum Disorder (ASD) is a developmental disability characterized by impairments in social reciprocity and communication, and stereotyped and repetitive behaviors, with onset during early childhood. The incidence of autism spectrum disorder has increased dramatically over the past three decades, with a prevalence of 1 in 88 from the CDC's most recent report.

Autism is estimated to cost the United States \$35 billion dollars a year. Thus, the provision of early intervention services which improve outcomes for individuals with ASD are extremely important.

Research on the efficacy of early intervention in ASD is limited. While the 1987 report by Lovaas that indicated that early behavioral intervention resulted in significant IQ gains created intense interest in early intervention, most studies have lacked methodological rigor. The best established evidence base for efficacy is Early Intensive Behavioral Intervention (EIBI). Since the initial Lovaas study, the intervention model has been adapted to improve generalization of skills. Other promising practices include developmental and relationship-based approaches and TEACCH Structured Teaching. Based on evidence review, The National Research Council made recommendations about the content of effective early intervention programs for ASD. These included: 1) at least 25 hours/week of active engagement, 2) instruction that blends knowledge of autism with principles of direct instruction, 3) intervention aimed at communication, joint attention, and symbolic play, 4) techniques to promote generalization, and 5) parental involvement.

### Model

Based on the current evidence base, along with the promising practices, programs have been developed which integrate applied behavior analysis with developmental and relationship-based approaches. One of these programs is the Early Start Denver Model (ESDM), which is a comprehensive early behavioral intervention for infants to preschool-aged children with ASD. ESDM uses teaching strategies that involve social exchange and positive affect, shared engagement with objects and activities, and a focus on verbal and non-verbal communication. The principles of applied behavior analysis are utilized as part of teaching strategies. Twenty therapist-delivered intervention hours are available each week for each child. In addition, parents are taught the basic ESDM strategies and are asked to use them at home during everyday activities.

### Population

This intervention targets young children with autism spectrum disorder. Research has shown that children who begin intervention at earlier ages have more gains and better outcomes.

## Research Background

The efficacy of the Early Start Denver Model (ESDM) was assessed in a randomized, controlled trial. Forty-eight children with ASD between the ages of 18 and 30 months were randomly assigned to ESDM or referral to community providers for available services in the community. Children in the control group received evaluations, treatment recommendations, referral to providers, and parent resource manuals. Compared with children who received community intervention, children who received ESDM showed significant improvements in IQ, adaptive behavior, and autism diagnosis. Two years after entering intervention. The ESDM children on average improved 17.6 standard score points, compared to 7.0 points in the comparison group. In addition, the ESDM children were more likely to experience a change in diagnosis from autism to pervasive developmental disorder. The results of this study emphasize the importance of early identification and intervention in ASD.

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