ABSTRACT

DISSERTATION: Neuropsychological and Adaptive Skills Deficits in Children with Attention-Deficit/Hyperactivity Disorder with and without Comorbid Fetal Alcohol Spectrum Disorder.

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PAGES: 189

The majority of children with Fetal Alcohol Spectrum Disorder (FASD) have comorbid Attention-Deficit Hyperactivity Disorder (95%; Fryer et al., 2007). The goal of this study was to compare the neuropsychological and adaptive skills profiles of children with Attention-Deficit/Hyperactivity Disorder (ADHD) with or without comorbid FASD in order to improve interventions for both of these populations. This study paid particular attention to neurological, cognitive, and adaptive skills strengths and weaknesses in children with ADHD/FASD and children with ADHD without comorbid FASD. By identifying these strengths and weaknesses recommendations were able to be made to help the functioning of each of children with ADHD/FASD and children with ADHD in their home, community, and school environments based on their neuropsychological and adaptive skills profiles.

Neurologically, children with ADHD/FASD and children with ADHD have been shown to have impairment in the basal ganglia, cerebellum, corpus callosum, frontal lobes, hippocampus, hypothalamus, occipital lobes, parietal lobes, temporal lobes, and thalamus. Cognitively, children with ADHD have been shown to have difficulty in areas such as working memory and processing speed with less significant deficiencies in verbal ability and perceptual organization whereas children with ADHD/FASD have shown impairment in all of these

cognitive abilities. When compared to typically developing children with approximately the same level of general intelligence, children with ADHD have been shown to obtain lower standard scores in all domains of adaptive functioning and children with FASD have been shown to demonstrate significant adaptive skills deficits throughout the lifespan.

This study used specialized statistical procedures including Multivariate Analysis of Variance (MANOVA), Discriminant Analysis (DA), and Classification and Regression Tree (CART) in order to investigate the neuropsychological and adaptive skills in 81 children with ADHD/FASD and 147 children with ADHD. The statistical analyses indicated that children with ADHD/FASD and children with ADHD have similar cognitive and adaptive skills profiles; however, the children with comorbid ADHD/FASD were significantly more impaired in verbal ability, perceptual reasoning, working memory, processing speed, and overall adaptive skills.

The current study took a step forward in helping to make diagnostic decisions based on the similarities and differences between children with ADHD with and without comorbid FASD. Given the data from the current study indicating the significant differences in cognitive and adaptive skills in these two samples, it is imperative that psychopharmacological interventions be tailored to these two seemingly similar yet different groups, especially as these two groups may respond differently to stimulant medication, the first line of medicinal treatment for ADHD. Children with ADHD/FASD should also be treated with more intense interventions in the home, community, and school than children with ADHD.