Neurodevelopmental Disorders Associated with Prenatal Exposure to Alcohol and Their Importance in Justice and Corrections

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The Critical Role of Self-Regulation

- Neuroscience and behavioral research are converging on the importance of self-regulation for successful development
- Children who do not develop the capacity to inhibit impulsive behavior, to plan, and to regulate their emotion are at high risk for behavioral and emotional difficulties

Neurodevelopmental Disorders

- Autism and Autism Spectrum Disorders
- ADHD
- Intellectual Disability
- Specific Learning Disorders
- Communication Disorders
- Motor Disorders
- Newly defined DSM-5 Neurodevelopmental Disorder associated with Fetal Alcohol Exposure

Prevalence of Fetal Alcohol Spectrum Disorders – South Africa

- In a low SES, highly rural of South Africa in the Western Cape Province, FASD occurs in 182 – 259 per 1,000 children or 18-26 percent
Prevalence of Fetal Alcohol Spectrum Disorders - Australia

- In a remote Aboriginal community of the Fitzroy Valley in Western Australia, FASD occurs in 120 per 1,000 children or 12 percent

Prevalence of Fetal Alcohol Spectrum Disorders - Russia

- The prevalence of FAS among adopted children from Eastern Europe/Russia) living in US 15 to 70/ 1,000
- Children Russian adoptees diagnosed ARND = 34%
- Records of alcohol-exposed pregnancy were significantly higher and constituted 19% to 41%
- Prospective adopting parents are concerned about the high risk of FASD among children adopted from Russia
  - Popova et al 2014. “What research is being done on prenatal alcohol exposure and fetal alcohol spectrum disorders in the Russian research community?” Alcohol and Alcoholism 49 (1): 85 – 95
Fetal Alcohol Spectrum Disorder (FASD) are 19 times more likely to be incarcerated than youths without FASD in a given year

Population study in a Midwestern community
• Population = 160,000
• Median income $51,800
• 11% below poverty
– Surveyed 70% of 2,033 1st graders
– 2.4 to 4.8% had FASD
Rates of FASD in Washington state’s foster care population were 10-15/1,000

Dr. Pat Rojmahamongkol, et al
– 17% of physicians correctly identified FAS
– 74% were able to correctly identify Williams Syndrome
• Williams Syndrome occurs in only 1/7,500.

547 youth referred for severe behavioral disorders
• 50.6% African American
• 1.3% Asian
• 32.2% White
• 0.7% Native American
• 12.2% Biracial
• 3% Other/unknown
– 28.5% of these youth had FASD
• 86.5% had never been diagnosed or were misdiagnosed
• 26.4% of these youth were misdiagnosed as having ADHD

Patients seen at JPH’s Family Medicine Clinic – Serving Community of 143,000
Median income $33,809 & 95% Public Aid

<table>
<thead>
<tr>
<th>Number of adult and child patients with clinical profile consistent with Neurobehavioral Disorder Associated with Prenatal Alcohol Exposure (NDA-PAE)</th>
<th>237 (39%)</th>
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<tbody>
<tr>
<td>Total Patients without Neurodevelopmental Disorders</td>
<td>314 (51%)</td>
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<tr>
<td>Total</td>
<td>611 (100%)</td>
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