Substance Abuse and Trauma Speaker Series
Prenatal exposure to substances and Trauma: Fostering Parent and Child Wellbeing

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Harolyn Belcher, MD, Kennedy Krieger Institute
Anne Wells, PhD, Children’s Research Triangle
Kathy Mitchell, MHS, LOADD, National Organization on Fetal Alcohol Syndrome

Understanding and Addressing Prenatal Substance Abuse and Trauma

Harolyn M.E. Belcher, M.D., M.H.S
Kennedy Krieger Institute

Substance Abuse: The Nation’s Number One Preventable Health Problem
Types of Drug Use in the Past Month among Females Aged 15 to 44, by Pregnancy Status

<table>
<thead>
<tr>
<th>Substance</th>
<th>Pregnant Women</th>
<th>Non-pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illicit Drug Use</td>
<td>109,000 (4.1)</td>
<td>6,383,000 (30.9)</td>
</tr>
<tr>
<td>Marijuana</td>
<td>98,000 (3.7)</td>
<td>4,415,000 (21.4)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>1,000 (0.1)</td>
<td>370,000 (1.6)</td>
</tr>
<tr>
<td>Crack</td>
<td>2,000 (0.3)</td>
<td>56,000 (0.3)</td>
</tr>
<tr>
<td>Opiates</td>
<td>1,000 (0.1)</td>
<td>61,000 (0.3)</td>
</tr>
<tr>
<td>Nonmedical Use of</td>
<td>27,000 (1.1)</td>
<td>2,212,000 (10.8)</td>
</tr>
<tr>
<td>Psychotropic Meds.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol Use</td>
<td>246,000 (10.8)</td>
<td>32,095,000 (154.2)</td>
</tr>
<tr>
<td>binge drinking</td>
<td>98,000 (4.7)</td>
<td>14,000,000 (73.4)</td>
</tr>
<tr>
<td>Cigarette Use</td>
<td>688,000 (26.3)</td>
<td>16,688,000 (26.7)</td>
</tr>
</tbody>
</table>

National Survey on Drug Use and Health, 2011

Pregnancy and Substance Abuse: Risk Factors

Risk Factors

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Illicit Drugs Only (n)</th>
<th>Cocaine Only (n)</th>
<th>Opiates Only (n)</th>
<th>Alcohol Only (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal History</td>
<td>15.5 (3.4)</td>
<td>17.7 (5.3)</td>
<td>21.7 (5.9)</td>
<td>33.8 (3.9)</td>
</tr>
<tr>
<td>Maternal Trauma</td>
<td>15.5 (3.4)</td>
<td>17.7 (5.3)</td>
<td>21.7 (5.9)</td>
<td>33.8 (3.9)</td>
</tr>
<tr>
<td>Substance Infection</td>
<td>1.7 (0.5)</td>
<td>1.7 (0.5)</td>
<td>1.7 (0.5)</td>
<td>1.7 (0.5)</td>
</tr>
<tr>
<td>AIDS</td>
<td>15.5 (3.4)</td>
<td>17.7 (5.3)</td>
<td>21.7 (5.9)</td>
<td>33.8 (3.9)</td>
</tr>
</tbody>
</table>

Saxer et al., 2002 & Krigs et al., 2003
Maternal Lifestyle Study: School Age Results

Behavior (3-7 years; N=1,056)
- High levels of cocaine exposure
- Prenatal tobacco and alcohol
- Prenatal opiate exposure
- Prenatal marijuana not associated with behavior problems

School Function (7 years; N=943)
- IEP was associated with:
  - Cocaine exposure
  - Male
  - LBW
  - White
  - Low IQ
  - Low HOME

7.1 Prevalence of Secondary Disabilities across the Life Span

5.1 IQ distributions in the Primary Disabilities Sample: FAS and FAE

Neonatal Health Risks Attributable to Prenatal Drug Exposure

<table>
<thead>
<tr>
<th></th>
<th>Cocaine</th>
<th>Opiates</th>
<th>Alcohol</th>
<th>Tobacco</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prematurity</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Decreased Birth Weight</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fetal Alcohol Syndrome</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fetal Abnormality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased Infant Mortality</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal Abstinence Syndrome</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Belcher & Johnson-Brooks, 2007
Committee on Health Care for Underserved Women, 2012
MLS Study; Minnes, Lang, Singer, 2011;
Combined Effects of IUDE and Adversity (N=1073)

- Drug exposure was associated with increased behavior dysregulation
- Boys had higher dysregulation than girls
- Dysregulation was related to later executive function difficulties
- Drug exposure was a predictor of early adversity
- Drug exposure mediated through history of early adverse exposures was associated with growth in executive function difficulties

Fisher et al., 2011

fMRI Findings in Individual with Intrauterine Drug Exposure

- fMRI and Prenatal Cocaine Exposure Preliminary MLS findings
  - Children 8-9 years (11 with CE; 11 no-CE)
  - Go/No-Go task
  - No differences in task performance
  - CE: Frontal, anterior cingulate, striatal regions
  - no-CE: posterior activation

Sheinkopf et al., 2009 & Smith et al., 2004

Prenatal Drug Exposure and Child Development

- Drug exposure was associated with increased behavior dysregulation
- Boys had higher dysregulation than girls
- Dysregulation was related to later executive function difficulties
- Drug exposure was a predictor of early adversity
- Drug exposure mediated through history of early adverse exposures was associated with growth in executive function difficulties

Fisher et al., 2011

To improve the quality of life for children and families focusing on those affected by substance abuse, homelessness and poverty.

Dayspring Program Values:

- Creating community
- Creating support systems
- Providing linkages to effective services
- Providing partnerships to create a continuum of care for people in recovery
- Promoting a drug and alcohol free environment
Dayspring Housing Continuum

Client Referrals → Early Treatment and Recovery → Community Integration

Supportive Services:
- Housing
- Case Management
- Parenting
- Tutoring
- Health Care
- Child Care
- Head Start
- Life Skills
- Job Training
- Mentoring
- GED and Literacy
- NA/AA Groups

Dayspring Head Start Children

Began in 2000 with one classroom.
Today, we serve 511 children at 12 sites.

And the reason we all work the way we do...for Dayspring children and their families

Prenatal Exposure to Alcohol and Trauma

Screening, Referral, and Treatment

Anne Wells, Ph.D.
Children’s Research Triangle

Children’s Research Triangle Team

4P’s Plus Team:
Ira Chasnoff, M.D.; Christine Tsuyuhada; Katie Oakley; Jessie Montes de Oca; Haley Meagher; Lauren King, M.A.

Taming Your Dragon Team:
Amy Groessl, LCSW; Dana Lasman, LCSW

Screening Women for Perinatal Substance Use

- Multiple screening tools available, e.g. AUDIT-C, T-ACE, TWEAK
- These tools screen for heavy alcohol use.
- At Children’s Research Triangle, we use the 4 P’s Plus®
- This tool is highly sensitive and screens for light or heavy use.
4 P’s Plus® Questions

- Did either of your parents have any problem with drugs or alcohol?
- Does your partner have any problem with drugs or alcohol?
- Have you ever had any beer/wine/liquor?
- In the month before you knew you were pregnant, how many cigarettes did you smoke?
- In the month before you knew you were pregnant, how much beer/wine/liquor did you drink?

Domestic Violence Questions

- Is your partner’s temper ever a problem for you?
- Have you ever felt out of control or helpless?
- Does your partner threaten to hurt or punish you?

Positive Rate for Domestic Violence Across Communities

Comparison of DV Results and Positive 4P’s Plus Screen Across Communities

Comparison of DV Results to Alcohol Use Since Pregnant

First you screen, then what?

- Brief Intervention, “I am concerned…”
- Substance Abuse Referral
- Tobacco Cessation Referral
- Domestic Violence Referral
- Mental Health Evaluation Referral
Taming Your Dragon Group

Inclusion Criteria
- Prenatal exposure to alcohol or drugs
- Exposure to trauma
- Ages 7-12

Exclusion Criteria
- Severely delayed
- Extreme aggression

Content of Group
- Unit about Cognitive Triangle
- A review of the common reactions to trauma
- Assistance putting together a trauma narrative and sharing that narrative with others
- Education about negative self-talk
- Sessions about self-expression through art

Contact Information
Questions?
awells@cr-triangle.org
Children’s Research Triangle
www.childstudy.org

Fetal Alcohol Spectrum Disorders (FASD) Identification and Implications: A Family Perspective

Kathleen Mitchell, MHS, LCADC
Vice President & International Spokesperson
National Organization on Fetal Alcohol Syndrome

National Organization on Fetal Alcohol Syndrome
www.nofas.org

- Clearinghouse
  - Resource Directory
  - Materials Dissemination
  - NOFAS Information Clearinghouse
- Affiliates and Stakeholder Networks
- Capacity Building
- Media Outreach
- Training and Curriculum
- Students and Professionals
- Policy and Advocacy
- Prevention
- Circle of Hope Birth Mothers Network
  - Public Awareness campaigns
Alcohol & SIDS

- “Alcohol use while pregnant is a leading causal factor in both fetal and infant death.”
  - Ken Warren, PhD, Acting Director, NIAAA
  - NOFAS interview, www.nofas.org

101 Things to Know

- In 1996, the Institute of Medicine reported “Of all substances of abuse (including heroin, cocaine, marijuana), alcohol produces by far the most serious neurobehavioral effects in the fetus.”
- One study estimated that 70% of children in foster care have prenatal alcohol exposure
- Sixty percent of individuals with FASD will require institutional support (incarceration or mental health facility)

1977

Karti, Danny and Erin
A Happy Little Hippy Family

Karli age 10
(diagnosed with cerebral palsy)

Individuals with FASD make Powerful Advocates!
FASD is often an Invisible Disorder

- Most cases of FASD are never diagnosed. Symptoms of FASD are identified and addressed. But rarely is alcohol identified as the causal factor.
- Few physicians, healthcare professionals, disability professionals, psychologists, therapists, etc. are trained in how to identify FASD.

Screening for FASD

- Cognitive development
- Social interactions and attachments
- Communication abilities
- Behavior
- Learning problems
- Self-image
- Motor/ sensory issues

- Self-regulation (sleep, appetite, stress-emotional)
- Autonomy/ independence
- Academic performance (school records)
- Health/ medical
- Past-current diagnoses?

Parents Raising Children (+18) Report:

- have considerable difficulty handling money
- are often exhausted from their irregular sleep patterns
- are highly vulnerable to co-dependent relationships
- have difficulty remembering to take all forms of medication
- are vulnerable to panic attacks, depression, and suicidal thoughts
- are unable to follow simple safety rules during meal preparation, driving, and working.

This information was provided by the FAS Family Resource Institute.
Lifetime Cognitive, Behavioral, Emotional and other Problems Appear Across a Continuum of Severity

- **Cognition**
  - Reduced IQ, Learning Disabilities, poor insight and judgment, executive functioning, attention, short term memory and processing speed
  - Mild → Severe

- **Behavior**
  - Aggression, temper outbursts, impulsivity
  - Mild → Severe

- **Social Skills**
  - Poor boundaries, difficulty reading facial expressions or body language
  - Mild → Severe

- **Speech and Language**
  - Pragmatic speech, receptive and expressive language
  - Mild → Severe

Common Disorders identified with FASD

- Autism/Asperger’s Disorder
- Attention Deficit Hyperactivity Disorder (ADHD)
- Borderline Personality Disorder
- Attachment-Bonding Disorder
- Depression
- Learning disability
- Oppositional-Defiant Disorder
- Post Traumatic Stress Disorder (PTSD)
- Receptive-Expressive Language Disorder
- Conduct Disorder

Other Concepts that may be Problematic:

- Decision Making
- Time
- Impulsiveness
- Seeing another perspective point of view
- Adaptive behavior: Has no idea what to do, when he does not know what to do
- Can’t see the big picture - only the little immediate picture
- Distinguishing between public and private behaviors
- Difficulty expressing themselves
- Language - receptive deficits (connecting to meaning)

Paradigm Shift:

- Person with a developmental disability
- Can’t not won’t
- Need support (external brain)

Provide HOPE for individuals and their families...
Choline supplementation during adolescence mitigates working memory deficits
Choline is obtained from the diet (eggs, liver) & can be administered as a nutritional supplement
Perinatal supplementation leads to life-long cognitive enhancement
Childhood supplementation mitigates learning deficits, reduces hyperactivity & perseveration
During adolescence, did not mitigate overactivity or spatial learning

For the Clinician:
- Use First Person Language
- Develop trust with family
- Come from a place of empathy
- Education on addiction, FASD, and family dynamics of addiction
- Don’t refer families to clinicians or physicians that are not educated on FASD/addiction

Clinicians & Educators: Treating Clients with FASD
- Structure (without control)
- Repetition
- Consistency
- Brevity
- Persistence
- KISS...go slow, slow, slow

Treating the Family or Moms
- Follow up the screening questions with probes
- Be non-judgmental
- Listen attentively to concerns
- Refrain from negative comments or reactions
- Focus on your patient as well as her baby
- Make positive statements about the woman/family seeking counseling/care
- Make positive statements about progress during each visit
- Understand the differences in birth vs. adoptive families (guilt/shame/remorse-anger/blame towards birth families)

Resources
- National Organization on Fetal Alcohol Syndrome (NOFAS): www.nofas.org
- SAMHSA FASD Center for Excellence: fasdcenter.samhsa.gov
- Centers for Disease Control and Prevention FAS Prevention Team: www.cdc.gov/ncbddd/fas
- National Institute on Alcohol Abuse and Alcoholism (NIAAA): www.niaaa.nih.gov
- National Clearinghouse for Alcohol and Drug Information (NCADI): ncadi.samhsa.gov

Contact me ANYTIME!
Thank You!
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