

Co-occurring Disorders in Foster and Adopted Children with Prenatal Substance Exposure

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Research Question:

Nature vs. Nurture

*What factors – biologic or environmental –
predict co-occurring mental health disorders
in foster and adopted polydrug-exposed
children with
FAS/ARND?*

Fetal Alcohol Syndrome

- Low birth weight
- Central nervous system effects
- Facial dysmorphology

Fetal Alcohol Syndrome: The Older Child

- Poor growth, weight gain
- Central nervous system effects
- Facial dysmorphology

Diagnostic Criteria

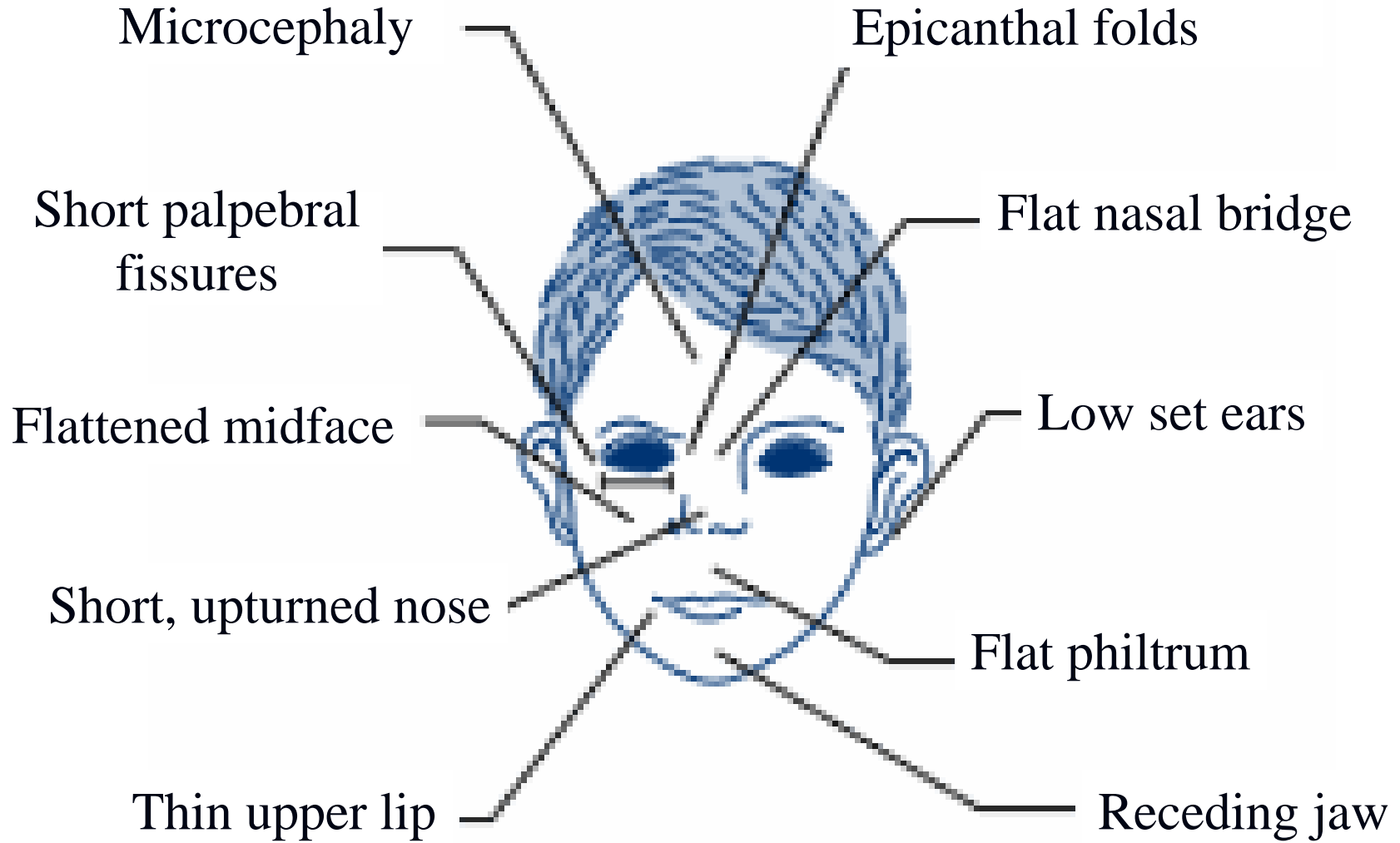
- I. Growth retardation
- II. Facial malformations: short palpebral fissures, thin upper lip, flat elongated philtrum
- III. Neurodevelopmental disorder

FAS *Confirmed or unconfirmed* history of prenatal alcohol exposure
Meets criteria in all three categories: I, II, III

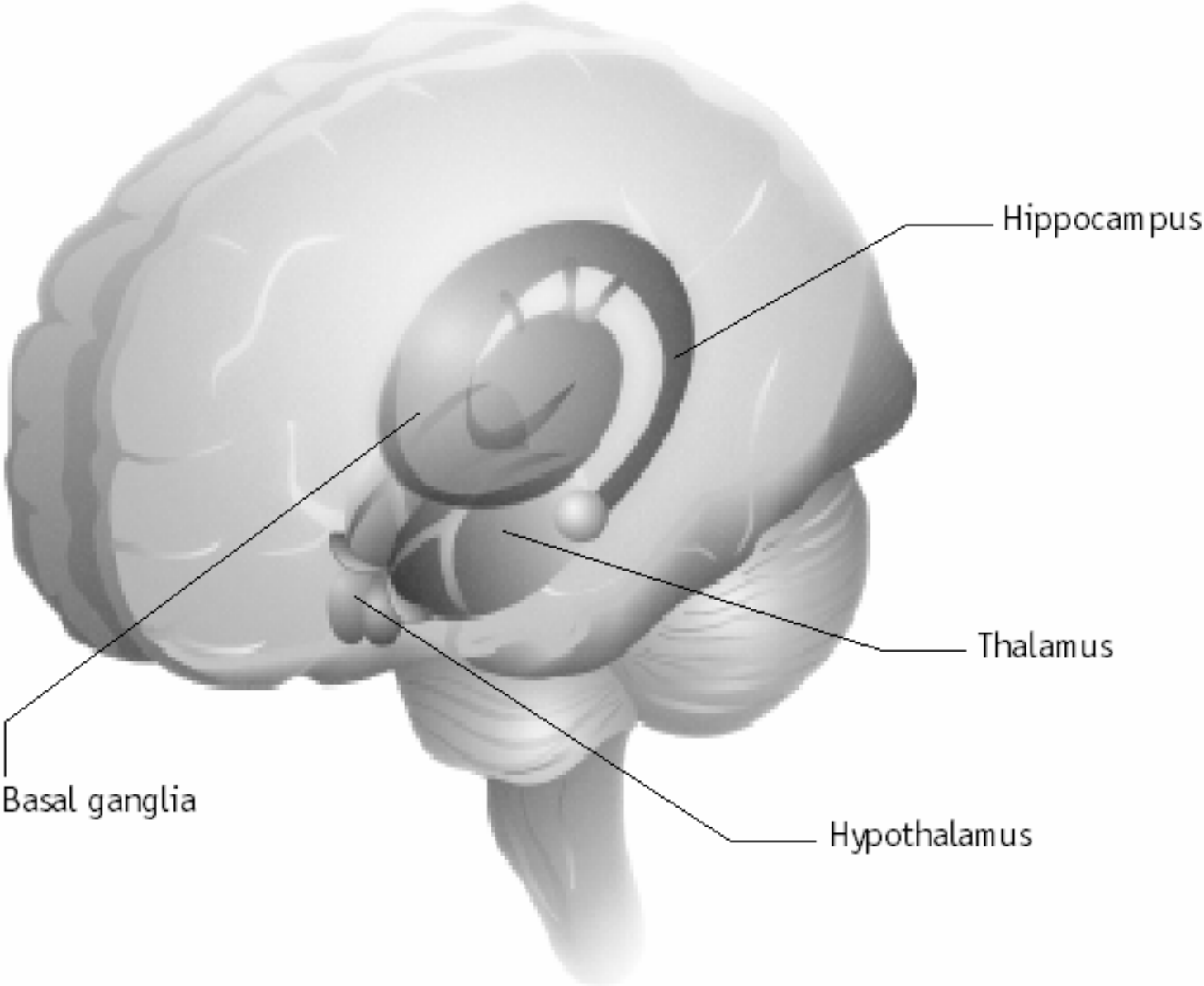
ARND *Confirmed* history of prenatal alcohol exposure
Meets criteria in III

CDC, 2005

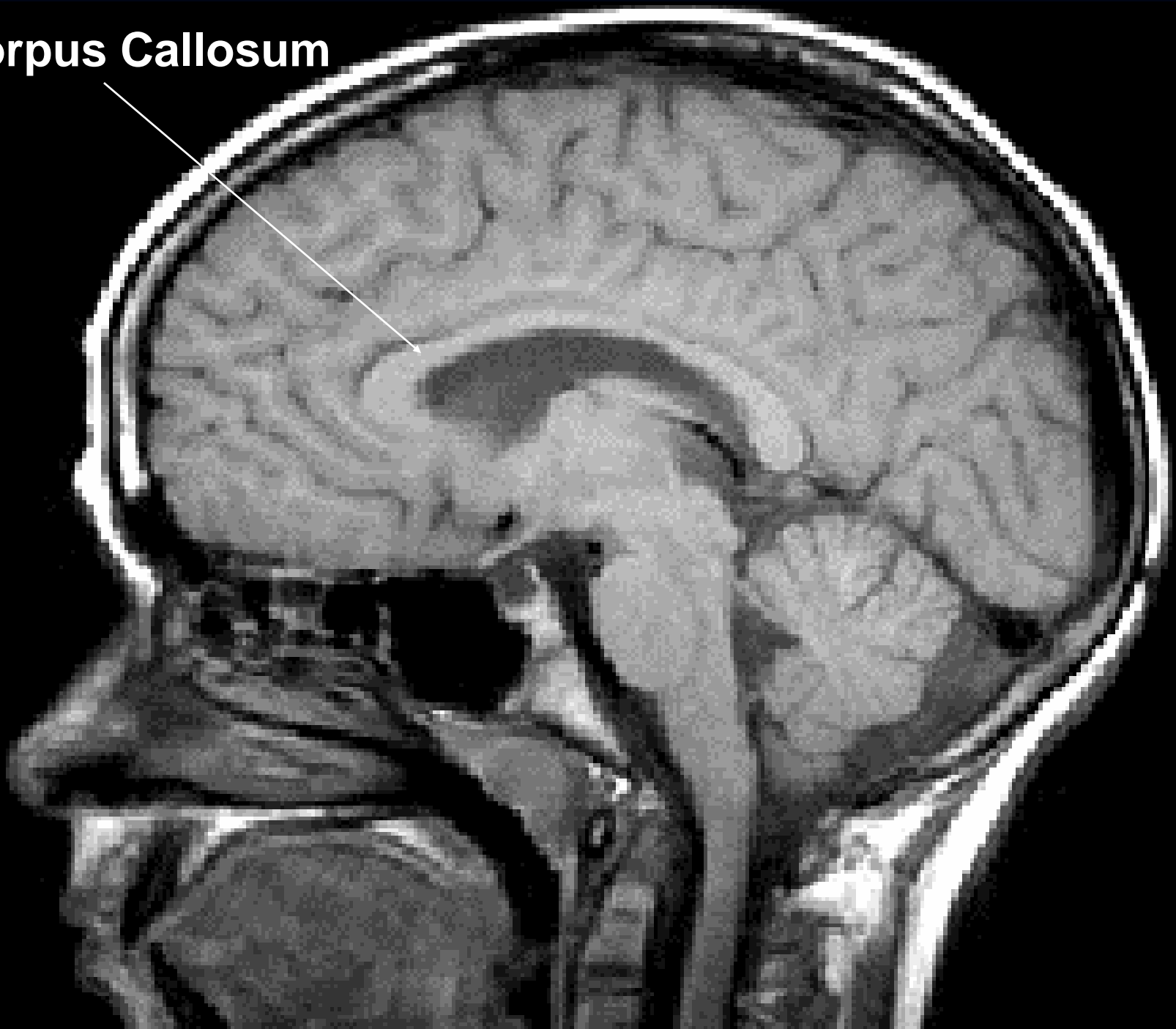
Facies in Fetal Alcohol Syndrome



A schematic simplified drawing of the sub-structure of the brain



Corpus Callosum



Foster and Adopted Children with FAS/ARND

N	63
Age	8.5 years (5 – 12 years)
Male	70%
Racial distribution	
Caucasian	25%
African American	52%
Native American	2%
Hispanic	3%
Mixed race	18%

Children with FAS/ARND

Placement

Adopted 70%

Foster care 19%

Kinship care 8%

Number of placements

1.8

(0 – 7)

Time in current placement

74 mos.

(4 – 120)

Average age at adoption

40.1 mos.

Age of primary caregiver

47 yrs.

(35-65)

Reason for Removal from Birth Home

Neglect	49%
Risk of harm	24%
Abandonment	20%
Physical abuse	13%
Sexual abuse	5%
Voluntary	12%

Maternal Polydrug Use Patterns (N=63)

Alcohol

Daily 25%

Binge 10%

Unknown 65%

Cocaine/crack 57%

Tobacco 38%

Marijuana 16%

Opiates 10%

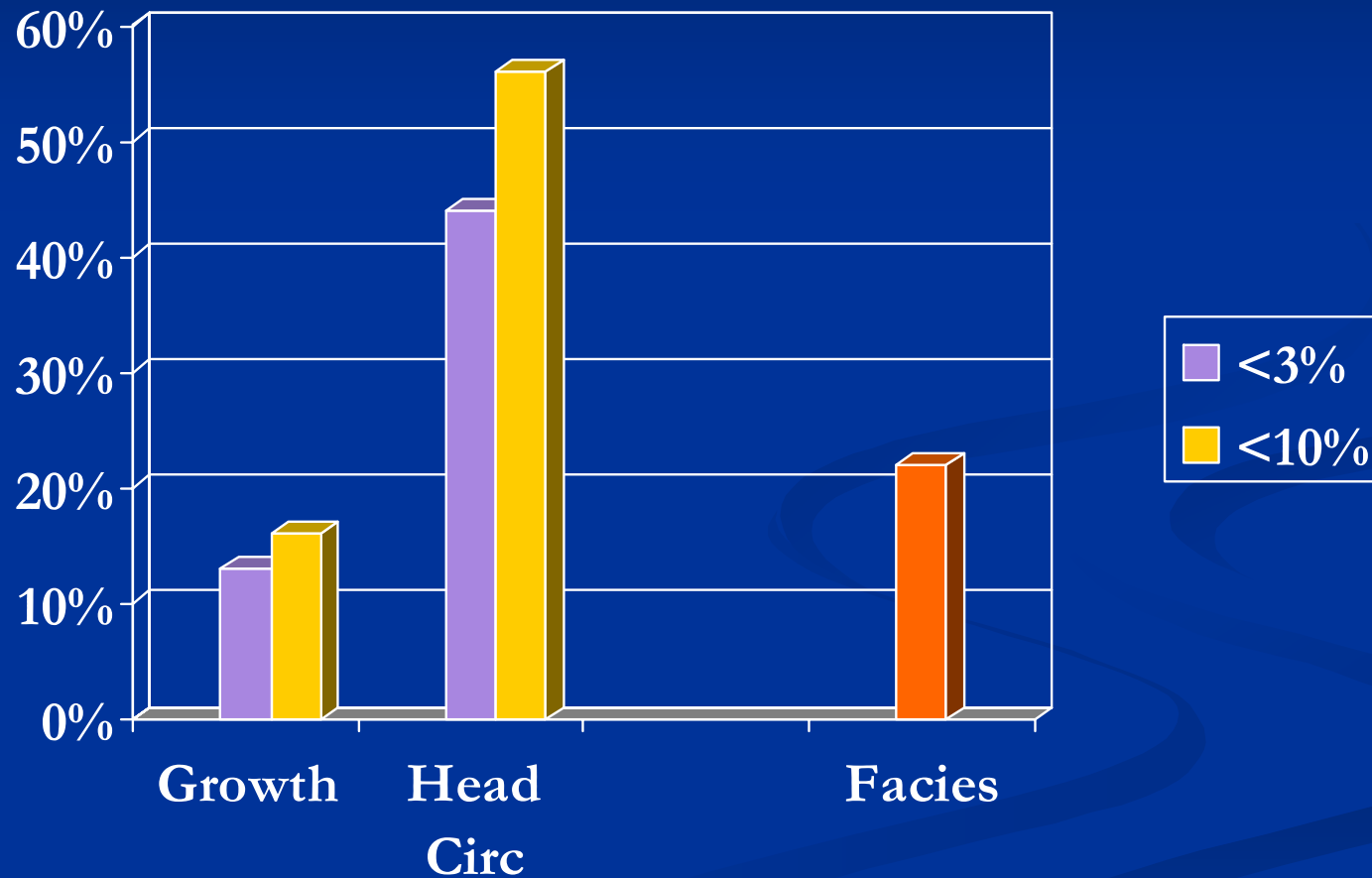
Amphetamines 2%

PCP 2%

Assessment

- *Socioeconomic status*
Hollingshead
- *Psychopathology*
DISC
- *Executive Functioning*
BRIEF
WCST
Color Trails
- *Social*
SSRS-P
- *Behavior*
CBCL
TRF
- *Sensory*
Short Sensory Profile
- *Adaptive*
VABS
- *Parenting stress and competency*
PSI-LF
- *School achievement*
WRAT-III
- *Cognitive*
WISC-III
- *Memory*
WRAML Screening
- *Emotional*
RAT

Biological Markers of FAS



Education Issues

IEP completed	45%
Special education services	58%
Self-contained classroom	17%
Regular classroom w/ resources	41%
Repeated a grade	18%
Behavioral dismissals	22%
In-school suspension	9%
Out of school suspension	9%
10-45 day interim placement	1%
Expelled	3%

Prevalence of Co-occurring Disorders

At least one

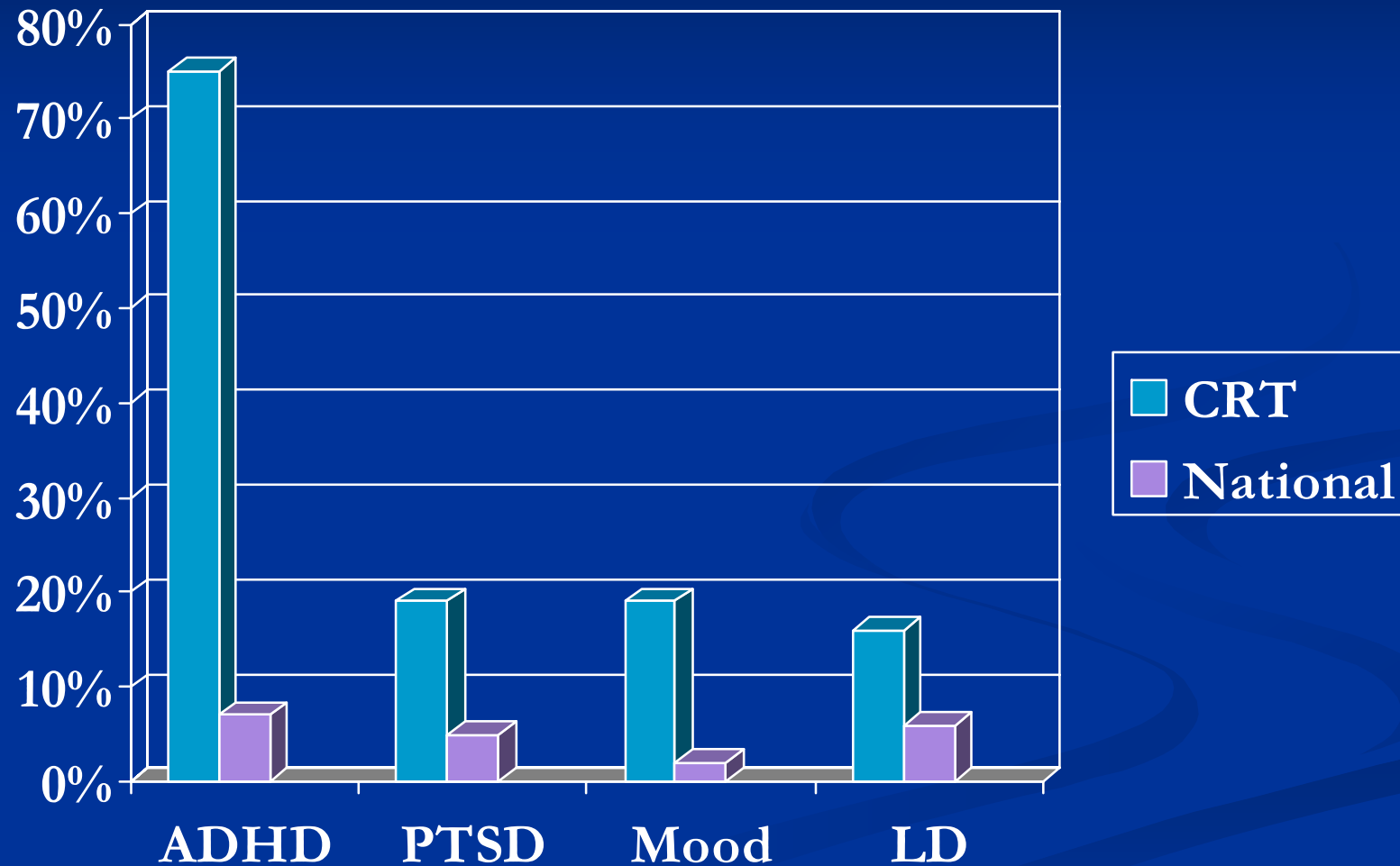
mental health diagnosis 94%

FAS 100%

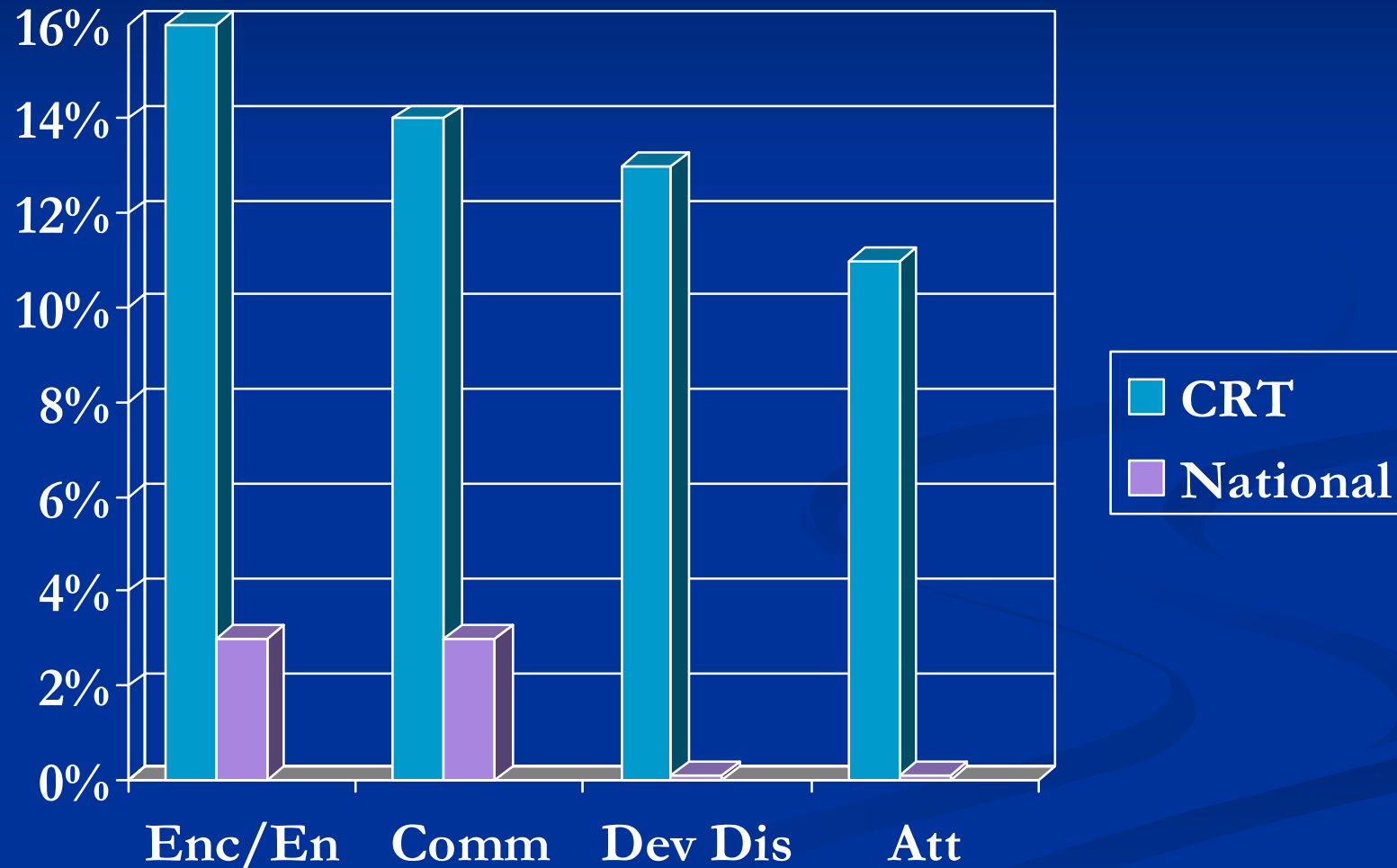
ARND 89%

$X^2 =$ non-significant

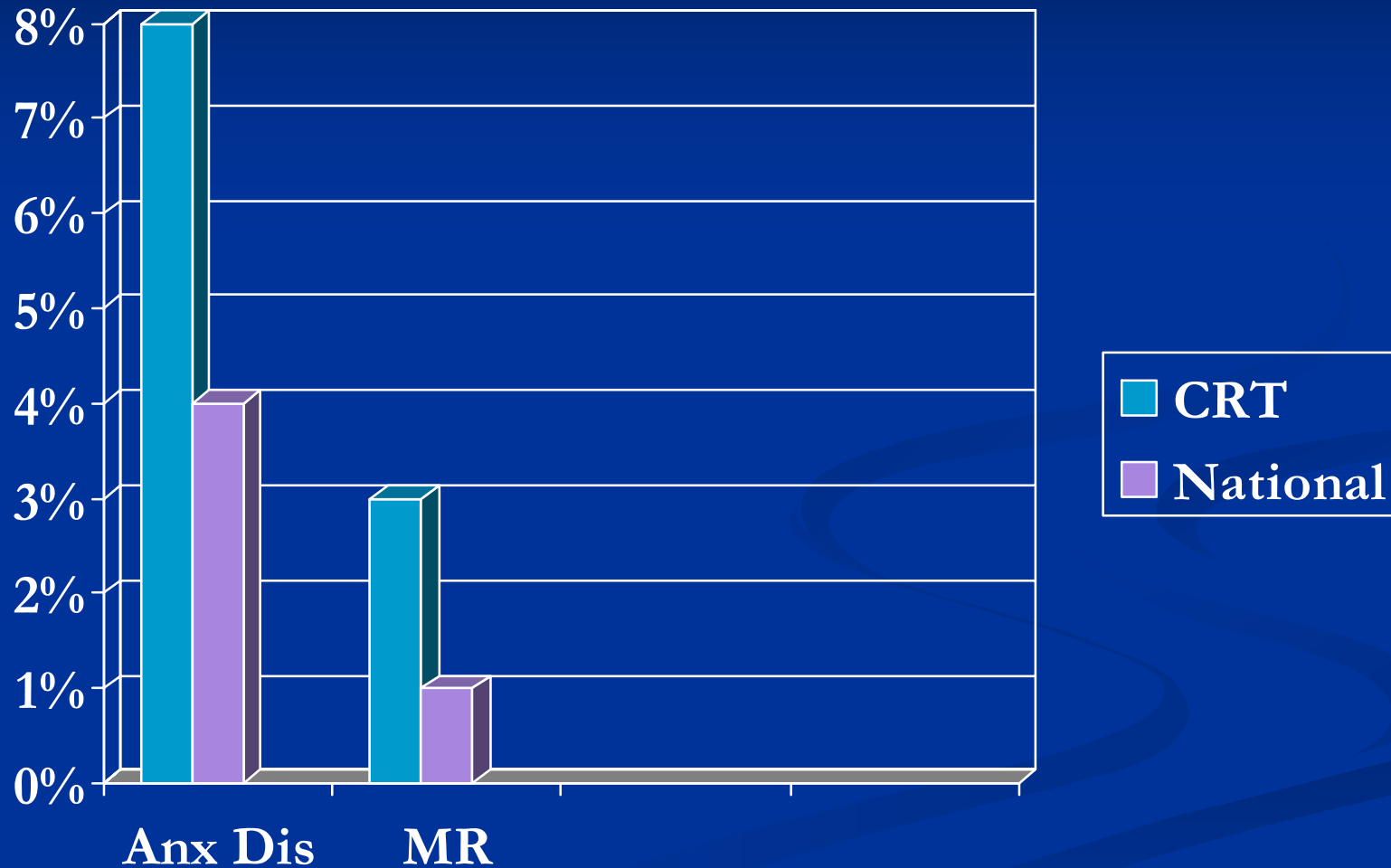
Co-Occurring Disorders

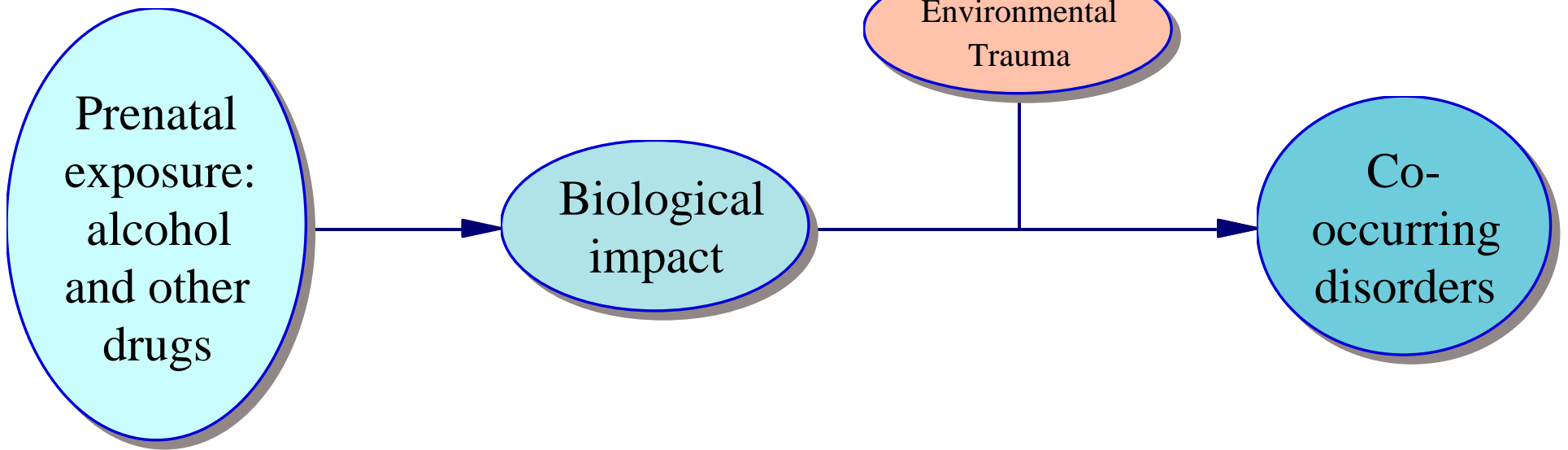


Co-Occurring Disorders



Co-Occurring Disorders





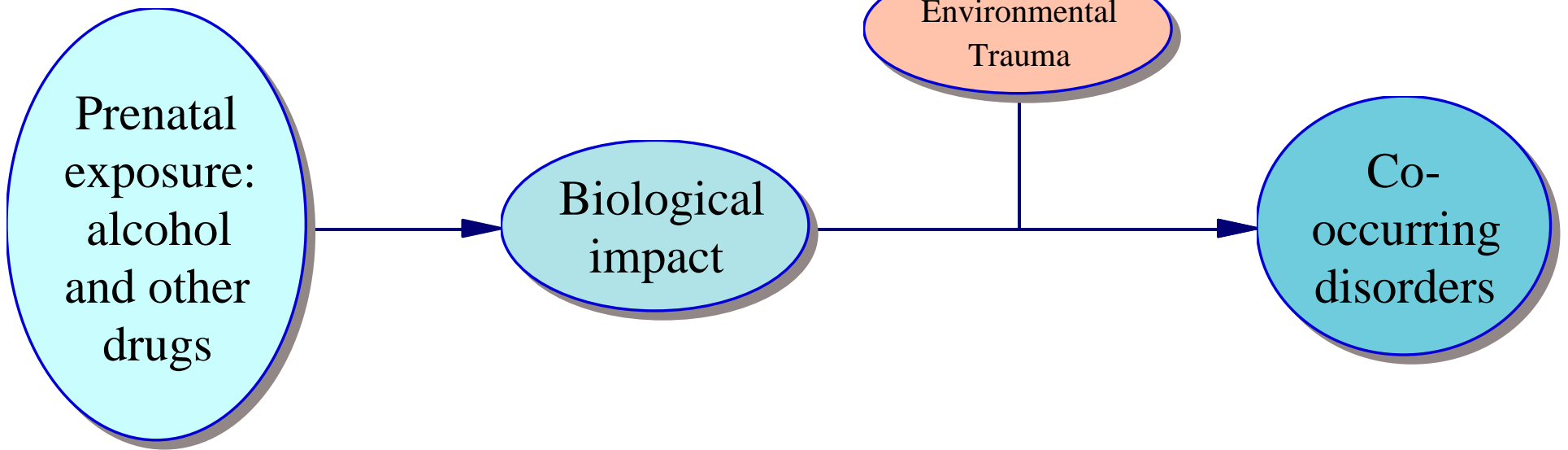
Independent Variables

Biologic markers: FAS/ARND

- Current growth
height &/or weight <10th %
- Current head circumference
< 10 %
- Facial features
all three features +

Environmental markers: child welfare system

- Number of placements
- Time in current placement



Dependent Variables:

Domains of *Co-occurring Disorders*

Behavior

- ADHD
- Disruptive behaviors (ODD, Conduct disorder, Disruptive Behavior Disorder NOS)

Anxiety / Mood

- Anxiety (Generalized, Separation Anxiety)
- Depression (Major Depression, Bipolar)

Dependent Variables:

Domains of *Co-occurring Disorders*

Processing

- Communication (Expressive Language, Receptive Language, Mixed, Articulation Disorder)
- Learning disability (Reading, Math, Written, Expression)
- Developmental disorder (PDD)
- Sensory processing disorder

Relational

- PTSD
- Attachment

Analytic Approach: *Discriminant Analysis*

Purpose

- Determine which biological or environmental factors predict the presence of various co-occurring disorders

Information obtained

- Which single biological or environmental factor is most heavily weighted in the prediction of the presence of the co-occurring disorders?
- What relative weight is contributed by the biological and environmental factors when considered simultaneously?
- How much of the variability is shared by the group?

Discriminant Analyses

Co-occurring Disorder	<u>p</u> Value
ADHD	NS
Anxiety/Mood disorder	NS
Processing Disorder	NS
PTSD/Attachment Disorder	<.01

Standardized Discriminant Coefficients: PTSD/Attachment

Current growth	.771
Number of placements	.573
Length of time in current placement	- .445
Current head circumference	- .310
Facial dysmorphology	.126

$\underline{p} = .014$

accounts for 23% of variability

Conclusions

- Over 90% of all foster and adopted polydrug-exposed children in the study suffered a co-occurring mental health disorder.
- Biologic and environmental factors interact to produce the increased risk for co-occurring disorders.
- CWS-related factors significantly impact risk for PTSD/RAD.

Protective Factors

- Being raised in a stable, nurturing home
- No sexual or physical abuse
- Diagnosis before the age of 6
- Receiving early intervention services.

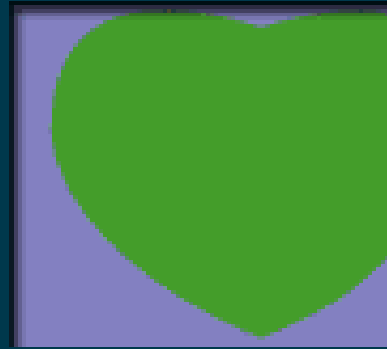
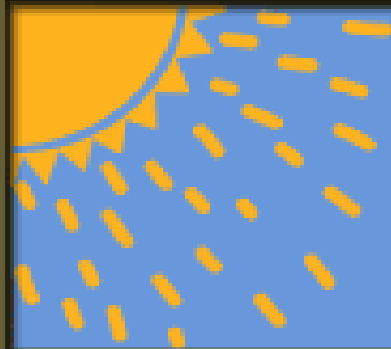
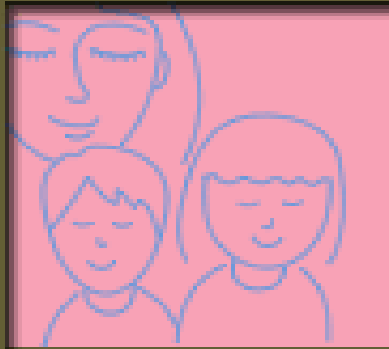
CWS-Specific Protective Factors

- Living in stable nurturing home >72% of life
- Staying in each placement for average >2 years
- Good quality home from age 8 to 12 years
- Basic needs met for at least 13% of life

Streissguth et al, 1996

Policy Implications

- Screening of all pregnant women for risk of substance use
- Consistent linkage of prenatal charts to child welfare records
- Training CWS personnel in taking exposure history
- Screening of all children entering CWS for stigmata of prenatal substance exposure
- Therapeutic interventions based on accurate diagnosis
- Supporting foster/adoptive parents to promote stability of placements



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