The Language of Fetal Alcohol Spectrum Disorders

WHAT YOU NEED TO KNOW

History of Fetal Alcohol Spectrum Disorders

For centuries, people have known that alcohol can harm a fetus. However, a specific medical link was not identified until 1899. Dr. William Sullivan compared the pregnancy outcomes of 120 alcoholic prisoners with 28 of their relatives. The infant mortality rate among the alcoholic women was higher.[1]

In 1957, Jacqueline Rouquette wrote about prenatal alcohol exposure. Then, in 1968, Dr. Paul Lemoine published a study in which he described 127 children with distinctive facial features and other symptoms related to prenatal alcohol exposure.[2] Five years later, researchers in Seattle published findings of a similar study. They named the condition fetal alcohol syndrome (FAS).[3]

Definition of Fetal Alcohol Spectrum Disorders

Experts now know that the effects of prenatal alcohol exposure extend beyond FAS. "Fetal alcohol spectrum disorders" (FASD) is an umbrella term describing the range of effects that can occur in an individual whose mother drank alcohol during pregnancy. These effects may include physical, mental, behavioral, and/or learning disabilities with possible lifelong implications. FASD is not a diagnostic term used by clinicians. It refers to conditions such as:

- Fetal alcohol syndrome, including partial FAS
- Fetal alcohol effects (FAE)
- Alcohol-related neurodevelopmental disorder
- Alcohol-related birth defects

Fetal Alcohol Syndrome

FAS consists of a pattern of neurologic, behavioral, and cognitive deficits that can interfere with growth, learning, and socialization. FAS has four major components:

- A characteristic pattern of facial abnormalities (small eye openings, indistinct or flat philtrum, thin upper lip)
- Growth deficiencies, such as low birth weight
- Brain damage, such as small skull at birth, structural defects, and neurologic signs, including impaired fine motor skills, poor eye-hand coordination, and tremors
- Maternal alcohol use during pregnancy

Behavioral or cognitive problems may include mental retardation, learning disabilities, attention deficits, hyperactivity, poor impulse control, and social, language, and memory deficits.

Partial FAS describes persons with confirmed alcohol exposure, facial anomalies, and one other group of symptoms (growth retardation, central nervous system defects, or cognitive deficits).

Fetal Alcohol Effects

Fetal alcohol effects (FAE) describes children with prenatal alcohol exposure who do not have all the symptoms of FAS. Many have growth deficiencies, behavior problems, cognitive deficits, and other symptoms. However, they do not have the facial features of FAS. Although the term FAE is still used, the Institute of Medicine has coined more specific terms. These include alcohol-related neurodevelopmental disorder and alcohol-related birth defects.

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Alcohol-Related Neurodevelopmental Disorder

Alcohol-related neurodevelopmental disorder (ARND) refers to various neurologic abnormalities, such as problems with communication skills, memory, learning ability, visual and spatial skills, intelligence, and motor skills. Children with ARND have central nervous system deficits but not all the physical features of FAS. Their problems may include sleep disturbances, attention deficits, poor visual focus, increased activity, delayed speech, and learning disabilities.

Alcohol-Related Birth Defects

Alcohol-related birth defects (ARBD) describe defects in the skeletal and major organ systems. Virtually every defect has been described in some patient with FAS. They may include abnormalities of the heart, eyes, ears, kidneys, and skeleton, such as holes in the heart, underdeveloped kidneys, and fused bones.

Origin and Impact of FASD

Cause of FASD

The only cause of FASD is alcohol use during pregnancy. When a pregnant woman drinks, the alcohol crosses the placenta into the fetal blood system. Thus, alcohol reaches the fetus, its developing tissues, and organs. This is how brain damage occurs, which can lead to mental retardation, social and emotional problems, learning disabilities, and other challenges.

No alcohol consumption is safe during pregnancy. In addition, the type of alcohol (beer, wine, hard liquor, wine cooler, etc.) does not appear to make a difference.

Prevalence of FASD

FASD occurs in about 10 per 1,000 live births, or about 40,000 babies per year. FAS, the most recognized condition in the spectrum, is estimated to occur in 0.5 to 2 per 1,000 live births.[4] It now outranks Down syndrome and autism in prevalence.

Assessment of FASD

It is extremely difficult to diagnose a fetal alcohol spectrum disorder. A team of professionals is needed, including a physician, psychologist, speech pathologist, and physical or occupational therapist. Diagnostic tests may include physical exams, intelligence tests, and occupational and physical therapy, psychological, speech, and neurologic evaluations.

Diagnosis is easier if the birth mother confirms alcohol use during pregnancy. However, FAS can be diagnosed without confirming maternal alcohol use, if all the symptoms are present.

Impact of FASD

Children with FASD often grow up with social and emotional problems. They may have mental illness or substance abuse problems, struggle in school, and become involved with the corrections system. Costs of FAS alone are estimated at between 1 and 5 million dollars per child, not including incarceration. This estimate does not include cost to society, such as lost productivity, burden on families, and poor quality of life.[5]

References

1. Abel, E.L. 1990. *Fetal Alcohol Syndrome.* Oradell, NJ: Medical Economics.
2. Lemoine, P.; Harousseau, H.; Borteyru, J.-P., et al. 1968. Les enfants de parents alcooliques: Anomalies observees. A propos de 127 cas [Children of alcoholic parents: Abnormalities observed in 127 cases]. *Ouest Medical* 21:476–482.
3. Jones, K.L., and Smith, D.W. 1973. Recognition of the fetal alcohol syndrome in early infancy. *Lancet* 2:999–1001.
4. May, P.A., and Gossage, J.P. 2001. Estimating the prevalence of fetal alcohol syndrome: A summary. *Alcohol Research & Health* 25(3):159–167.
5. Kellerman, C., and Kellerman, T. 1999. The five million dollar baby: The economics of FAS. (http://come-over.to/FAS/economicsFAS.htm on 04/04/02).

If you're pregnant, don't drink. If you drink, don't get pregnant.

For more information, visit fascenter.samhsa.gov or call 866-STOPFAS.

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