

# Facts on Kids in South Dakota

## Fetal Alcohol Syndrome



Issue No. 4-2003

### Introduction

*The focus of this Facts on Kids monograph is Fetal Alcohol Syndrome (FAS). Prenatal exposure to alcohol can cause a spectrum of disorders. According to the Center for Disease Control, one of the most severe effects of drinking during pregnancy is fetal alcohol syndrome (FAS). FAS is a preventable cause of mental retardation and birth defects. FAS is a lifelong, physically and mentally disabling condition and can be characterized by abnormal facial features, growth deficiencies, and central nervous system problems. People with FAS may have problems with learning, memory, attention span, communication, vision, and/or hearing. FAS is a permanent condition.*

### Fetal Alcohol Syndrome

Fetal Alcohol Syndrome, Alcohol-Related Neurodevelopmental Disorder and Alcohol-Related Birth Defects, as defined below, are the terms given to describe the various disabilities that may result from alcohol exposure during pregnancy.

**Fetal Alcohol Syndrome (FAS):** Fetal Alcohol Syndrome is a set of birth defects caused by maternal consumption of alcohol during pregnancy. At birth, children with FAS may be recognized by growth deficiency and a characteristic set of minor facial traits that tend to become more normal as the child matures. Less evident at birth are the lifelong effects of alcohol-induced damage to the developing brain<sup>1</sup>.

**Alcohol-Related Neurodevelopmental Disorder (ARND):** Alcohol-Related Neurodevelopmental Disorder is used to describe impairments of the nervous system-brain, spinal cord, or other nerves that can be linked to alcohol consumption during pregnancy. These impairments may include mental retardation, poor motor skills or hand-eye coordination, severe behavioral problems, learning disabilities, and attention deficit, among others<sup>2</sup>.

**Alcohol-Related Birth Defects (ARBD):** Alcohol-Related Birth Defects describes physical or functional defects of the skeleton and other major organ systems<sup>3</sup>.

**Fetal Alcohol Effect (FAE):** FAE has been used to describe children who have all of the diagnostic features of FAS, but at mild or less severe levels. In 1996, the Institute of Medicine (IOM) replaced FAE with the terms ARND and ARBD.<sup>4</sup> The term FAE is still used in many resources.

**Fetal Alcohol Spectrum Disorders (FASD):** FASD is a spectrum of neurological, behavioral, and cognitive deficits that interfere with growth, learning, and socialization, including both FAS and FAE<sup>5</sup>.

Symptoms can include<sup>6</sup>:

- Low birth weight;
- Impaired growth before and after birth;
- Facial malformations;
- Small head size;
- Learning disabilities and lower IQ;
- Hyperactivity and the inability to pay attention;
- Sleeping problems;
- Organ damage.

### Facts about alcohol use during pregnancy<sup>7</sup>



•From 1991 - 1995, the Center for Disease Control reported a fourfold increase in frequent (7+ drinks per week) and binge (5+ drinks on any one occasion) drinking during pregnancy.

•While the overall rate of any alcohol use (at least one drink) among pregnant women has declined since 1995, rates of "risk drinking" (frequent and binge) remain at high levels.

•One in 30 women who know they are pregnant reports frequent or binge drinking.

•Birth defects associated with prenatal alcohol

exposure can occur in the first 3 to 8 weeks of pregnancy, before a woman even knows she is pregnant.

- According to the 10<sup>th</sup> Special Report to the US Congress on Alcohol and Health, health care costs associated with FAS were estimated to be \$2.8 billion in 1998.

## FAS and the Role of the Father

One of the unanswered questions about FAS relates to the father. Little is known about the role the father plays in FAS. A report by the National Academy of Sciences suggests the contribution of a father's alcohol consumption to an adverse pregnancy outcome is not well understood<sup>8</sup>. While only the mother's drinking can cause FAS or ARND, the father's drinking can lower testosterone levels, decrease healthy sperm, and increase the risk of disorders in the offspring. Preliminary animal studies indicate that alcohol can damage the DNA in male sperm<sup>9</sup>.

The social impact of the father may, in fact, play a large role. The social effects of the father's drinking are enormous, since women most often drink with their partners. Fathers who drink heavily are unlikely to provide the necessary emotional support and care for their pregnant partners. A father's drinking after the baby is born could adversely affect the nurturing home environment needed to raise a child<sup>10</sup>.



## Incidence and Prevalence of FASD

The estimates of the incidence and prevalence of FAS vary between sources. A 2001 study conducted by P.A. May and J.P. Gossage<sup>11</sup> estimated the prevalence of FAS in the United States to be between 0.5 and 2 per 1,000 births. Prevalence of FAS and ARBD combined was estimated to be at least 10 per 1,000 births. Using live birth data from the National Center for Health Statistics for 2000<sup>12</sup> and the May and Gossage estimated prevalence in 2001:

- ◆ Between 2,029 and 8,118 children in the United States were born with FAS;

## FASD and the Justice System

It is estimated that 60% of individuals with FAS/ARND will end up in an institution (prison or mental) at some point in their lives<sup>13</sup>. A study conducted by Ann Streissguth, PhD, director of the Fetal Alcohol and Drug Unit at the University of Washington, and colleagues followed 415 individuals with FAS or FAE and determined that:

- ◆ 14% of subjects between the ages of six and eleven and 61% of adolescents had problems involving the law at least once;
- ◆ 60% of FAS/FAE subjects age 12 or older had "been in trouble with the authorities, charged with a crime, or convicted of a crime"<sup>14</sup>.

The study showed that about a third of the FAS/FAE subjects studied age 12 and older first committed a crime between the ages of 9 and 14<sup>15</sup>. Additionally, the report states that 50% of these subjects age 12 and over had exhibited inappropriate sexual behavior, over 60% had dropped out of, or been suspended or expelled from school, and nearly a third had abused drugs and/or alcohol<sup>16</sup>.

## The Economic Impact of FASD

Estimates on the economic impact of FAS vary considerably between sources. Based on long-term research of cost and prevalence data in the states of Washington and North Dakota, it is estimated that there are almost 3 million individuals in the United States with FASD, and that care for these individuals costs the U.S. approximately \$4.2 billion each year<sup>17</sup>. Some of these costs include medical expenses, psychiatric care, foster care, orthodontia, respite care, Social Security, and residential placement.

## FASD in South Dakota

Fetal Alcohol Spectrum Disorders are a health concern in South Dakota. Using the 2001 live birth figures from the South Dakota Department of Health - Selected Health Statistics and the May & Gossage prevalence estimates:

- ◆ Between 5 and 21 children in South Dakota were born with FAS in 2001;

•About 105 children in South Dakota were born with FAE.

With an estimated lifetime cost of \$1.4 million for every individual with FAS<sup>18</sup>, the economic impact is substantial.

## Eight FASD Facts<sup>19</sup>

1. Drinking during pregnancy can cause permanent damage to a developing fetus;
2. FAS is one of the most common causes of mental retardation and is the only cause that is entirely preventable;
3. Prenatal exposure to alcohol can cause brain damage and other permanent birth defects;
4. Obtaining a Fetal Alcohol Syndrome diagnosis can improve an individual's ability to function in the world and may reduce secondary disabilities such as depression and school failure;
5. FASD is found in all races and all socio-economic groups;
6. There is no safe level of alcohol consumption during pregnancy;
7. Women should stop drinking prior to trying to conceive since alcohol can cause damage to a developing fetus even before a woman knows she is pregnant;
8. **FAS is 100% preventable.**



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### Websites of Interest:

The University of South Dakota School of Medicine, Center for Disabilities:  
<http://www.usd.edu/cd/>

National Organization on Fetal Alcohol Syndrome:  
<http://www.nofas.org/>

The Arc, Fetal Alcohol Syndrome Resource Guide:  
<http://www.thearc.org/misc/faslist.html>

Centers for Disease Control and Prevention, Fetal Alcohol Syndrome:  
<http://www.cdc.gov/ncbddd/fas/default.htm>.

National Institute of Health, Medline Plus, Fetal Alcohol Syndrome:

<http://www.nlm.nih.gov/medlineplus/fetalalcoholsyndrome.html>.

Fetal Alcohol Syndrome Family Resource Institute:

<http://www.fetalalcoholsyndrome.org/>

### (Endnotes)

- <sup>1</sup> Special Report to the U.S. Congress on Alcohol and Health from the Secretary of Health and Human Services, June 2000.
- <sup>2</sup> From the National Organization on Fetal Alcohol Syndrome website: [http://www.nofas.org/main/what\\_is\\_FAS.htm](http://www.nofas.org/main/what_is_FAS.htm).
- <sup>3</sup> From the National Organization on Fetal Alcohol Syndrome website: [http://www.nofas.org/main/what\\_is\\_FAS.htm](http://www.nofas.org/main/what_is_FAS.htm).
- <sup>4</sup> From the Center for Disease Control, website: <http://www.cdc.gov/ncbddd/fas/>
- <sup>5</sup> From the Substance Abuse and Mental Health Services Administration (SAMHSA) Fetal Alcohol Spectrum Disorders (FASD) website: <http://fascenter.samhsa.gov/about/fastfacts.cfm>
- <sup>6</sup> Office of Fetal Alcohol Syndrome, State of Alaska, Department of Health and Social Services, <http://health.hss.state.ak.us/fas/info/Default.htm>
- <sup>7</sup> From the Center for Disease Control, website: <http://www.cdc.gov/ncbddd/fas/fasprev.htm>
- <sup>8</sup> Cicero, Theodore J. "Effects of Paternal Exposure to Alcohol on Offspring Development, Alcohol Health and Research World, Vol. 18, No. 1, (1994) pages 37-41.
- <sup>9</sup> Paternal Exposure to Alcohol, Abel, 1992
- <sup>10</sup> Well Community - Well Families: Finding Solutions to Fetal Alcohol Syndrome, April 2000.
- <sup>11</sup> May and Gossage, Alcohol Research and Health 25, 159-167, 2001.
- <sup>12</sup> National Center for Health Statistics, <http://www.cdc.gov/nchs/releases/02news/womenbirths.htm>.
- <sup>13</sup> Streissguth, Ann. Final Report from the Research for Centers for Disease Control and Prevention. Fetal Alcohol and Drug Unit, Washington State University. 1996.
- <sup>14</sup> "Understanding the occurrence of secondary disabilities in clients with Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE)," Ann P. Streissguth, Helen M. Barr, Julia Kogan, and Fred L. Bookstein, report to the Centers for Disease Control and Prevention, August 1996.
- <sup>15</sup> "Understanding the occurrence of secondary disabilities in clients with Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE)," Ann P. Streissguth, Helen M. Barr, Julia Kogan, and Fred L. Bookstein, report to the Centers for Disease Control and Prevention, August 1996.
- <sup>16</sup> "Understanding the occurrence of secondary disabilities in clients with Fetal Alcohol Syndrome (FAS) and Fetal Alcohol Effects (FAE)," Ann P. Streissguth, Helen M. Barr, Julia Kogan, and Fred L. Bookstein, report to the Centers for Disease Control and Prevention, August 1996.
- <sup>17</sup> National Institute on Alcohol Abuse and Alcoholism, 2000. Website: [www.niaaa.nih.gov](http://www.niaaa.nih.gov)
- <sup>18</sup> Streissguth, 1989 and Children's Health Act of 2000.
- <sup>19</sup> Office of Fetal Alcohol Syndrome, State of Alaska, Department of Health and Social Services, <http://health.hss.state.ak.us/fas/info/Default.htm>



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**Facts on KIDS in South Dakota**

is published by the South Dakota KIDS COUNT Project, Business Research Bureau, The University of South Dakota.

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