

Fetal Alcohol Syndrome in South Dakota

By Amy J. Elliott, PhD; Jessica D. Hanson, MA

Three hallmark characteristics are required to make a diagnosis of Fetal Alcohol Syndrome (FAS). These are: (1) dysmorphic features, (2) growth retardation, and (3) Central Nervous System (CNS) neurodevelopmental abnormalities.^{1,2} In 2004, a consensus definition of Fetal Alcohol Spectrum Disorders (FASD) was adopted to refer to the entire range of effects caused by prenatal alcohol exposure.³ According to the Institute of Medicine, this spectrum includes the following diagnoses: Fetal Alcohol Syndrome (FAS) with and without confirmed maternal alcohol exposure, Partial FAS, Alcohol-related Neurodevelopmental Disorder (ARND), and Alcohol-related Birth Defects (ARBD).² To date, only the diagnosis of FAS has specific diagnostic criteria that have been agreed upon by both the scientific and the clinical communities.³ This article will provide a brief synopsis of the literature and its relevance to South Dakota.

Prevalence rates of FAS are highly dependent upon the study methodology, particularly with reference to active versus passive case ascertainment, populations studied, and FAS case definitions. Among American Indians in the Northern Plains, the FAS rate varies between 3.9 to 8.5 per 1,000 live births,⁴ compared to a rate of 0.5 to 3.0 per 1,000 nationally for all races combined.² In South Dakota, research has focused more on American Indian communities, which is likely due to higher rates of alcohol abuse and dependence in these communities, and also a greater willingness of American Indians to participate in and collaborate with researchers. Accordingly, more information is known about FAS in Native populations compared with the population as a whole. Unfortunately, this emphasis on one population has likely contributed to the perception that FAS is exclusively an American Indian issue, which may result in under identification of FAS in other ethnic groups.

Although pregnant women are urged to avoid consuming alcohol as a way to prevent fetal alcohol syndrome (FAS), rates of drinking by pregnant women continue to be problematic both nationally and locally. The Behavioral Risk Factor Surveillance System and the National Household Survey of Drug Abuse reports that approximately

13% of pregnant women nationwide confirmed some alcohol use, and between 2% and 5% of pregnant women reported binge drinking, or four or more drinks on any one occasion.^{5,6} Rates of alcohol consumption by pregnant women vary by state and region. As noted above, in South Dakota much of the research on maternal alcohol consumption has focused on American Indian women.

Although there is no “gold standard” for evaluating alcohol consumption during pregnancy either nationally or statewide, the Indian Health Service (IHS) hospitals that serve American Indian communities in South Dakota assess current drinking patterns at the first prenatal appointment through a self-administered questionnaire, considered extremely sensitive in detecting high-risk alcohol use.⁷ In one review of responses to this questionnaire, 56% of American Indian respondents reported consuming alcohol while pregnant. In that same study, 98% of pregnant American Indian women who were seen at the prenatal clinic knew that they should not drink during pregnancy; however, 6-10% continued to binge drink occasionally.⁸ Statistics like these indicate the importance of detecting alcohol consumption and risk factors for drinking during a woman's pregnancy in order to provide appropriate interventions and prevent adverse outcomes. Table 1 represents the demographic characteristics and risk factors of American Indian pregnant women who: 1) consume alcohol while pregnant, or 2) have a child born with FAS.⁸⁻¹⁰

As shown in Table 1, although there are some biological features that affect whether or not a child is born with FAS (e.g., age of mother, gravidity, parity), it appears that the woman's social circle is a major influence on substance use during pregnancy and subsequently on pregnancy outcome. American Indian women who consume alcohol during pregnancy and those who give birth to a child with FAS often live with a partner who drinks alcohol.^{8,9} This similarity may be especially significant because the typical style of drinking among American Indians is often very recreational and social.¹¹ The communal support a pregnant woman needs to refrain from consuming alcohol may be lacking because her social circle and the social cohesiveness to her community is

TABLE 1:
Maternal Characteristics Associated with FAS among American Indian Women

Demographic characteristics of women who consume alcohol while pregnant	Risk factors for having a child born with FAS
Binge drinking as the usual pattern of drinking	Binge drinking is the usual pattern of drinking during a drinking episode
Single but cohabitating with a partner who uses alcohol	Unmarried status but cohabitating with a heavy-drinking partner
Smoke prior to and during pregnancy	Use of tobacco and other drugs
Individual in their social network has or has had problems with alcohol	High gravidity and parity
Mother also drank	Age (older women more likely to have a child born with FAS)
Less education	Low socioeconomic status

often dependent on maintaining her social drinking status.

Prenatal alcohol use has been linked to other adverse outcomes, including mortality, crime, learning difficulties and mental health problems. The literature reports an increased risk for fetal and infant demise if a woman consumed alcohol during the first trimester of pregnancy, a time when many women do not know they are pregnant.¹²⁻¹⁴ In particular, binge drinking during the first trimester is associated with an

8-fold increased risk for SIDS among American Indian women from the Northern Plains.¹² There is a significant disparity in infant mortality rates in South Dakota. In 2004, the infant mortality rate for American Indians was double that of whites, 13.3 per 1,000 live births compared to 6.9 per 1,000.¹⁵

Fetal Alcohol Syndrome also takes a toll on fiscal resources of care-providers and state agencies. In 1982, the South Dakota Department of Health estimated the yearly cost of taking care of an individual with full FAS as ranging from \$10,000 to \$30,000.¹⁶ When these figures are recalculated based

using a consumer price index inflation calculator, the costs per year in 2004 would have been \$19,580 to \$58,740. This means that if an individual diagnosed with FAS at birth lives 60 years, the lifetime costs incurred could range between \$1,174,800 and \$3,524,400. These figures support the need for and benefit of rigorous, empirically-supported intervention strategies to decrease alcohol use during pregnancy.

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