

## Substance/Alcohol Use During Pregnancy

### About the Title V Block Grant

The federal Title V Maternal and Child Health (MCH) Block Grant helps states ensure the health of all mother and children. As part of Minnesota's Title V Block Grant activity requirements, the MDH conducts a statewide needs assessment every five years. The needs assessment provides guidance to Title V activities for the next five years by identifying priority issues. This fact sheet describes one of Minnesota's priority issues.

### Seriousness of the Issue

Nationally, in 2006 – 2007, 11.6% of pregnant women ages 15-44 reported current alcohol use, 3.7% heavy drinking. Binge drinking during the first trimester of pregnancy was reported by 6.6% of pregnant women aged 15 to 44.<sup>1</sup> Minnesota PRAMS data results for 2007 indicate 5.6% of women report alcohol use during the last trimester of pregnancy.<sup>2</sup>

In Minnesota in 2007, 16.2% of pregnant women smoked (combined birth certificate and Minnesota PRAMS self-report).<sup>2</sup> There has been no significant decline since Minnesota PRAMS began in 2002. This pattern is similar in Minnesota compared to national data.<sup>1</sup> Rates of smoking during pregnancy were significantly higher in Minnesota for certain groups of pregnant women: 20-24 year olds (33%), American Indians (59%), high school education or less (30%), unmarried (33%), in the 7 county metro (22%), and mothers on public insurance (30%).

While most pregnant women do not abuse illicit drugs, combined 2006 and 2007 data from the National Survey on Drug Use and Health found that pregnant women ages 15 to 17 had a higher rate of use (22.6%) than women of the same age who were not pregnant (13.3%).<sup>3</sup> These figures are of even greater concern when factoring in the increase in the rate (per 1,000 females age 15 – 19) of births both nationally and to Minnesota teens during 2006 and 2007. **Error! Bookmark not defined.** This rate had been steadily declining since 1991.

Alcohol exposed pregnancy is defined as any pregnancy during which a woman drank any amount

of alcohol at any time during her pregnancy. Up to 50% of women who become pregnant will not realize they are pregnant until after their 6th week of pregnancy, exposing their fetus to alcohol at a particularly vulnerable time. This fact is especially important because 1 in 8 women of childbearing age reports binge drinking in the past month. Binge drinking may be more harmful to the developing fetus than low-level daily drinking.<sup>4</sup>

A study published in 2008 found that non-Hispanic White women were far more likely than those in other ethnic categories to report substance use during pregnancy. Despite this higher prevalence, White women are less likely to be screened for substance abuse compared to Black women. This finding may be reflective of biases among prenatal caregivers and suggests the importance of screening all women for substance use regardless of ethnicity.<sup>5</sup> Minnesota PRAMS data for 2007 also demonstrates increased reporting of alcohol use during the last trimester for White women as compared to Populations of Color and American Indians, although this difference was not significant. Women who were over 35, not on WIC or public insurance (indicators of higher SES) reported slightly more alcohol consumption during the last trimester of pregnancy.<sup>2</sup>

It is difficult to pinpoint the precise impact due to factors which include exposure to multiple substances, nutritional status, extent of prenatal care, neglect or abuse, socioeconomic conditions and other variables.<sup>1</sup> Many studies have attempted to isolate specific drugs and determine the health and physical effects on infant and toddlers based on which trimester the drug was used. While there continues to be conflicting information regarding many drugs, the impact of the two most commonly used substances, tobacco and alcohol, are well documented.

### Tobacco

Smoking during pregnancy is associated with several adverse outcomes for the developing fetus, including increased risk for stillbirth, low birth weight, infant mortality, Sudden Infant Death Syndrome, preterm birth, and respiratory problems. The more a woman smokes during pregnancy, the more infant birth weight is reduced. Smoking during pregnancy can also



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affect cognition and is associated with behavioral problems.<sup>3</sup>

### Alcohol

Alcohol exposure during pregnancy has been shown to result in a spectrum of birth defects than can negatively affect a child's growth, cognition, physical appearance, and behavior over the lifespan. This spectrum of disorders is referred to as fetal alcohol spectrum disorders (FASD). Fetal alcohol syndrome (FAS) is the most serious disorder with this spectrum. Individuals affected with FAS have severe, permanent growth retardation, neurobehavioral abnormalities, and specific facial abnormalities. FAS is the leading cause of preventable birth defects and mental retardation in the United States. Numerous children exposed to alcohol in utero have significant physical or neurodevelopmental abnormalities without all the features of FAS. Alcohol related neurobehavioral disorder (ARND) refers to a constellation of neurobehavioral and central nervous system effects occurring in the absence of the characteristic facial and growth abnormalities associated with FAS.<sup>4</sup> Prenatal exposure to alcohol, particularly in early pregnancy, has also been found to increase the likelihood of developing an alcohol disorder in adulthood.<sup>6</sup>

### Cocaine, Marijuana, and Other Illicit Drugs

While some effects may be subtle, they generally range from low birth weight to developmental, behavioral and cognitive deficits. For example, impaired attention, language, and learning skills, as well as behavioral problems, have been seen in children exposed to cocaine and marijuana. Methamphetamine exposure has been associated with fetal growth restriction, decreased arousal, and poor quality of movement in infants. And although use of heroin during pregnancy has been associated with low birth weight the impact of prescription opiate abuse on pregnancy outcomes is an understudied research area.<sup>3</sup>

Brain development begins well before birth and continues through the early adult years. The biology of that process is influenced by genetic factors, the environment of the mother's womb and the world the child experiences during infancy and childhood. Thus, brains are built over time, and the circumstances in which they are built are every bit as important as the initial architectural framework.<sup>7</sup> Consequently, it is often difficult to separate the biological impact of exposure to alcohol, tobacco and other drugs (ATOD) before birth from the physiological effects of environmental stresses facing infants and toddlers whose parents have a substance abuse problem.<sup>7</sup>

### **Evidence-Based Strategies**

All pregnant women should be screened for alcohol, tobacco and other drug use at their first prenatal visit and throughout their pregnancy. Pregnancy may be a window of opportunity to intervene for substance abuse problems and may be the first time that a woman has sought medical care. Women in recovery have reported that they wanted help during pregnancy but didn't know how to ask.<sup>8</sup>

The 5 A's intervention: Ask, Advise, Assess, Assist, Arrange is effective in supporting women to stop smoking during pregnancy. Through brief counseling, providers and other staff can give pregnant smokers personalized messages about the health risks that smoking poses and self-help materials developed specifically for pregnant smokers. The 5 As, are consistent with brief interventions recommended by the NCI and the American Medical Association, and the American College of Obstetricians and Gynecologists.<sup>9 10</sup>

The most effective method for detecting substance abuse remains a non-toxicological screening tool. Screening tools help determine if a patient is at risk for substance abuse and would benefit from a more comprehensive evaluation. Effective screening tools in the prenatal setting are those that:

- Can be administered in 5–10 minutes
- Are used routinely with every patient, not just those in whom substance abuse is “suspected”
- Can be adapted to fit a provider's personal history-taking style
- Can be administered multiple times across a pregnancy, since patients may be more forthcoming as they develop trust with a provider
- Provide an opportunity to educate about alcohol and drug abuse and the benefits of stopping while pregnant.

Asking every patient questions in a health context lessens the stigma associated with the topic. Just as screening for diabetes is a routine and ongoing part of prenatal care, questions about substance abuse are most effective when used consistently and routinely.<sup>8</sup>

Residential treatment for pregnant and parenting women that accommodates women and their children has demonstrated reduced substance use (over 60% of women were chemical-free for 6 months after discharge) and improved birth outcomes.<sup>11</sup> In Minnesota, there continues to be a shortage of

residential treatment that accommodates women who need to bring their children with them.

Because 50% of pregnancies are unplanned, all women of childbearing age should be screened for alcohol use/abuse and referred as appropriate at all of their health care visits whether pregnant or not. Prevention of FASD through community and family education is also an effective intervention. Economic, social, and emotional costs for communities and families may be reduced by encouraging substance abuse treatment and contraception to prevent alcohol exposure in pregnancy.<sup>12</sup>

### Current Resources and Capacity

The Minnesota Organization on Fetal Alcohol Syndrome's (MOFAS) FASD Statewide Initiative includes prevention and intervention services. Through community grants, professional education, public awareness and diagnostic services, MOFAS works to reach individuals affected by FASD, their families and caregivers, and providers across Minnesota.

The Fetal Alcohol Spectrum Disorders-Regional Network (FASD-RN) is collaboration with the Washington County Children's Mental Health Collaborative, the Ramsey County Children's Mental Health Collaborative, and the Washington County Chemical Health Action Collaborative. The Fetal Alcohol Spectrum Disorders Regional Network works to eliminate fetal alcohol spectrum disorders (FASD); create partnerships, educate and involve the community, and strengthen support for families.

A variety of resources exist for Minnesotans who want to quit smoking; a list of these resources is available on the MDH web site at:

<http://www.health.state.mn.us/divs/hpcd/tpc/quit.html>

The Minnesota Network for Families and Recovery through Education, Support and Healing (MNFRESH) brings together providers of chemical health services with the goal of improving substance abuse services for women and children in Minnesota through collaboration and sharing best practices.

Clear Way Minnesota continues to oversee percent of the state's tobacco settlement funds and operates under the ongoing jurisdiction of the Ramsey County District Court. Clear Way funds tobacco-related research, programs and initiatives around the state. Clear Way also evaluates the effectiveness of all QUITPLAN® programs in Minnesota.

Minnesota statute 253B.02, subdivision 2 requires those who are mandated reporters to report to child protection services any "woman who has engaged during the pregnancy in habitual or excessive use, for nonmedical purpose, of any of the following substances or their derivatives: opium, heroin, phencyclidine, methamphetamine, amphetamine, tetrahydrocannabinol, or alcohol".

In Minnesota, all local health departments receive funding to provide home visits for at-risk pregnant women, infants and toddlers. Thirty-seven of 91 local health department programs report using a tool to explore for substance use and/or screen for abuse. Programs provide education, support and referrals around substance use during pregnancy. To support home visitor's knowledge and skills, MDH provides training on both chemical dependency and motivational interviewing. In local public health department home visiting programs implementing the Nurse Family Partnership model 10% fewer clients smoked at 36 weeks gestation than at intake.

Minnesota counties offer assessment, referral and financial assistance for chemical dependency treatment. Pregnant women are a priority group for these services. This assessment process and the decision criteria are governed by Rule 25 (Minnesota Rules, parts 9530.6600 through 9530.6655).

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<sup>1</sup> Substance Abuse and Mental Health Services Administration, Office of Applied Studies (2008). *Results from the 2007 National Survey on Drug Use and Health: National Findings* (NSDUH Series H-34, DHHS Publication No. SMA 08-4343). Rockville, MD.

<sup>2</sup> MDH, Minnesota Pregnancy Risk Assessment Monitoring System (2009). *2007 Data Tables*.

<sup>3</sup> National Institute on Drug Abuse. (2009). *Topics in Brief, Prenatal Exposure to Drugs of Abuse*. Retrieved August 25, 2009, from

<http://www.drugabuse.gov/pdf/tib/prenatal.pdf>

<sup>4</sup> Mengel, M.B., Searight, H.R. & Cook, K. (2006). Preventing Alcohol-exposed Pregnancies. *Journal of the American Board of Family Medicine*, 19 (5), 494-505.

<sup>5</sup> Havens, J.R., Simmons, L.A., Shannon, L. M., Hansen, W.F. (2009). Factors associated with substance use during pregnancy: Results from a national sample. *Drug and Alcohol Dependence* 99, 89-95.

<sup>6</sup> National Abandoned Infants Assistance Resource Center (2008). Fact Sheet – Prenatal Substance Exposure. Retrieved August 25, 2009, from [http://aia.berkeley.edu/media/pdf/2008\\_perinatal\\_se.pdf](http://aia.berkeley.edu/media/pdf/2008_perinatal_se.pdf)

<sup>7</sup> National Scientific Council on the Developing Child, Early exposure to toxic substances damages brain architecture. (2006), Working Paper No.4

<sup>8</sup> Morse, B., Gehshan, S., Hutchins, E. (1997). *Screening for Substance Abuse During Pregnancy: Improving Care, Improving Health*. Arlington, VA: National Center for Education in Maternal and Child Health

<sup>9</sup> American College of Obstetricians and Gynecologists. (2005) *Committee Opinion*, 316, October.

<sup>10</sup> Agency for Healthcare Policy and Research (2008) Clinical Practice Guidelines. Treating Tobacco Use and Dependence 2008 Update. Retrieved August 30, 2009 from:

<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat2.section.28251>

<sup>11</sup> SAMHSA. 2001. 1993-2000 Residential treatment programs for pregnant and parenting women. *Alcoholism & Drug Abuse Weekly*.13(35):3.

<sup>12</sup> MDH. 2004. Women and substance use in the childbearing years, a prevention primer.