Fact Sheet 2—Special Issues During Pregnancy

Estimating the number of infants who were exposed to substances in the prenatal period has been conducted in two primary ways: (1) collecting information about substance use from pregnant women or conducting drug tests on them and (2) testing infants at birth. The results vary based on the timing of the verbal screen with the mother, the type of drug test conducted, and the method used to test the infant (e.g., urine or meconium at birth). Each of these methods measures exposure to the substance and does not quantify or assess the number of babies who may be affected by the mothers' substance use.

There are several Federal efforts to monitor substance use among pregnant and recently pregnant women. There are no ongoing national efforts to document the number of substance-exposed infants or those who are identified as substance affected, but several site-specific studies have been conducted. These estimates of prenatal *exposure* to drugs and alcohol include—

- *National Survey on Drug Use and Health (NSDUH)*. The latest Federal data available from the NSDUH report on 2003 to 2004 annual averages of substance use by pregnant women. The NSDUH found that 4.6% of pregnant women aged 15 to 44 used illicit drugs in the past month. Rates varied by length of gestation, however; 8% of first trimester women, 3.8% of second trimester women, and 2.4% of third trimester women reported past month illicit drug use (U.S. Department of Health and Human Services [DHHS], 2005).

  Alcohol use was reported by 11.2% of pregnant women, with 22.2% of women in their first trimester reporting alcohol use and with the rates declining to 7% and 4.9% in the second and third trimesters, respectively. Binge drinking, five or more drinks on the same occasion, was reported by 4.5% of pregnant women. Again, rates varied by length of gestation, with 10.6% of first trimester women, 1.9% of second trimester women, and 1.1% of third trimester women reporting binge drinking (DHHS, 2005).

  Projecting these percentages to the approximately 4 million infants born each year results in a wide range of estimated substance-exposed infants, depending on substance and trimester of use (see Table 1) (DHHS, 2005).

Table 1: Substance Use by Pregnant Women by Length of Gestation, and Estimated Number of Infants Exposed (2003-2004 annual average)			
Substance Used (past month)	*1st Trimester*	*2nd Trimester*	*3rd Trimester*
Any Illicit Drug	8.0% women 327,440 infants	3.8% women 155,534 infants	2.4% women 98,232 infants
Alcohol Use	22.2% women 908,646 infants	7.0% women 286,510 infants	4.9% women 200,557 infants
Binge Alcohol Use	10.6% women 433,858 infants	1.9% women 77,767 infants	1.1% women 45,023 infants

From the same NSDUH data set, cigarette use was reported by 18% of pregnant women. In contrast to other substance use, which declines as the pregnancy progresses, cigarette use by trimester went from 22.7% in the first trimester, down to 13.4% in the second trimester, and then increased to 18% in the third trimester (DHHS, 2005). Prior studies based on this annual survey have found similar rates of substance use. For example, Ebrahim and Gfroerer (2003) estimated that in 1998 there were 202,000 pregnancies exposed to illicit drugs, 1,203,000 pregnancies exposed to cigarettes, and 823,000 pregnancies exposed to alcohol.

Rates of substance use among pregnant women also vary by age groups, with both past month illicit drug and alcohol use highest among teenagers. For instance, 16% of pregnant teens aged 15 to 17 reported past month illicit drug use, compared to 7.8% of those aged 18 to 25 and 2.1% of pregnant women aged 26 to 44. The trend was similar for alcohol use, though the differences were not quite as stark: 14.9% of pregnant teens aged 15 to 17 drank alcohol in the past month, compared to 10.6% of young women aged 18 to 25 and 11.3% of those aged 26 to 44. And, there was a similar trend among those reporting binge drinking, with 8.8% of pregnant teens 15 to 17 reporting binge drinking, compared to 5.1% of those 18 to 25 and 3.8% of those ages 26 to 44. And more than one-fourth (26%) of pregnant teens aged 15 to 17 and 28% of young women aged 18 to 25 reported past month cigarette use, compared to 11.7% of pregnant women aged 26 to 44 (DHHS, 2005). Table 2 summarizes these data.

Table 2: Substance Use by Pregnant Women by Age (2003-2004 annual average)			
	Age Group		
Substance Used (past month)	*15-17*	*18-25*	*26-44*
Any Illicit Drug	16.0%	7.8%	2.1%
Alcohol Use	14.9%	10.6%	11.3%
Binge Alcohol Use	8.8%	5.1%	3.8%
Tobacco Use	26.0%	28.0%	11.7%

The NSDUH also provides information beyond substance use to capture the number of individuals who need alcohol or drug treatment for substance *abuse* or *dependence*. Table 3 shows the results of an analysis using the 2003 NSDUH public use file on the percentage of females classified as needing alcohol or drug treatment, by pregnancy status (Substance Abuse and Mental Health Services Administration, 2005).

Table 3: Percentage of Females Aged 15-44 Classified as Needing Treatment by Pregnancy Status: 2003 (Source: Online Analysis of NSDUH Public Use File)		
Needed Treatment in Prior Year for:	Pregnant	*Not Pregnant*
Alcohol or Illicit Drug Use	8.6%	10.4%
Illicit Drug Use	4.6%	4.0%
Alcohol Use	5.4%	8.1%

- *Fetal Alcohol Syndrome Surveillance Network (FASSNet)* and *State-Based FAS Prevention Program*. From 1997 to 2003, the Centers for Disease Control and Prevention (CDC) funded FASSNet, a statewide, population-based surveillance network to determine the prevalence of Fetal Alcohol Syndrome (FAS) within a geographically defined area. The five States participating in FASSNet were Alaska, Arizona, Colorado, New York, and Wisconsin. CDC studies from FASSNet showed FAS prevalence rates ranging from 0.2 to 1.5 cases per 1,000 live births in different areas of the United States (CDC, 2005)

  Other prenatal alcohol-related conditions, such as alcohol-related neurodevelopmental disorder (ARND) and alcohol-related birth defects (ARBDs) are believed to occur about three times as often as FAS (CDC, 2005). Though the FASSNet cooperative agreements with five States ended in 2003, its methodology has been adapted for use by the CDC's more recently funded FAS Prevention Program, which includes cooperative agreements with seven States. The seven States currently participating in the FAS Prevention Program are Colorado, Michigan, Minnesota, Missouri, Oregon, South Dakota, and Wisconsin (Miller et al., 2002). The CDC also monitors the prevalence of alcohol use among women of childbearing age through the Behavioral Risk Factor Surveillance System (BRFSS) survey.

- *Screening During Pregnancy.* In a study of more than 7,800 pregnant women enrolled in prenatal care clinics in five communities who were screened for substance use with the 4P's Plus©, approximately one-third (32.7%) had a positive screen. Four of the communities conducted followup assessments on all women with a positive screen and found that 15% of those continued to use substances after learning of the pregnancy (Chasnoff et al., 2005).

- *The Pregnancy Risk Assessment Monitoring System (PRAMS)*. PRAMS, currently used in 32 States, collects data based on self-reported maternal behaviors and experiences that occur before, during, and shortly after pregnancy. Through cooperative agreements between the CDC and these 32 State governments, information on the use of alcohol and tobacco before and during pregnancy is compiled; questions on illegal drug use are included in the survey at the discretion of the State (Beck, Johnson, Morrow, Lipscomb et al., 1999).

  In some of these States, maternal substance use is reported at levels that corroborate States' other estimates and national survey data. For instance, PRAMS indicates that during their last trimester of pregnancy 3% to 8% of women used alcohol and 5% to 14% used tobacco (Beck, Morrow, Lipscomb, Johnson et al. 2002).

- *Infant Development, Environment, and Lifestyle (IDEAL) Study.* This longitudinal study is used to assess the outcomes associated with prenatal methamphetamine exposure. Participating sites were selected because of their known high rates of methamphetamine problems and include Los Angeles, CA; Des Moines, IA; Tulsa, OK; and Honolulu, HI. The prevalence of drug use has been determined by both mothers' self-report of substance use during pregnancy and testing of infants' meconium at birth. The results of the IDEAL study, which are not representative of the country as a whole, were collected in 2004. These data have been compared to the National Pregnancy and Health Survey (NPHS) that was collected in 1992 to 1993. Nearly half (44%) of the methamphetamine users had used other illicit drugs. Table 5 shows the results (Arria et al., 2006).

Table 5: Infant Development, Environment, and Lifestyles (IDEAL) and the National Pregnancy and Health Survey (NPHS)		
Substance	IDEAL (2004)	NPHS (1992-1993)
Alcohol	22.8%	18.8%
Tobacco	25.4%	20.4%
Marijuana	6.0%	2.9%
Methamphetamine	5.2%	0.1%
Any Illicit Drug	10.7%	5.5%

When the figures in each table are evaluated together, the data can be summarized as follows:

- An estimated 8% to 11% of the 4.1 million live births (in 2004) involved prenatal exposure to illegal drugs.
- Binge alcohol drinking ranges from nearly 11% of women in the first trimester to 1% in the third trimester.
- Prenatal exposure to alcohol includes an estimated 22% of pregnant women during the first trimester and 5% of women in the third trimester.
- Tobacco use by pregnant women exposes approximately one-quarter of babies with mothers younger than age 26.
- When tobacco data are included, the three types of exposure—prenatal use of illicit drugs, alcohol, and tobacco—are the basis for the statement that "more than one million" children are affected by prenatal substance exposure (McGourty & Chasnoff, 2003). This figure differs from the 400,000 to 440,000 estimated infants who test positive, because the smaller figure measures only prenatal use that can be detected at a point in time—birth—whereas the surveys that are the basis for the larger figure cover prenatal substance use during the entire period of pregnancy.

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