

Prematurity in Idaho



Results from the 2007 Pregnancy Risk Assessment Tracking System

Premature birth—birth prior to 37 weeks of gestation—is one of the leading causes of infant morbidity and mortality.¹ Premature infants are at increased risk for neonatal-health complications including lung, gastrointestinal, immune system, vision, and hearing problems. Premature birth also increases the risk for long-lasting disabilities including cerebral palsy, vision and hearing loss, learning and behavioral problems, and a range of developmental disabilities.^{2,3} Although several factors have been identified as contributors to a woman's risk for premature delivery (such as her obstetrical history, certain medical conditions, and various prenatal behaviors), very little is known about predicting and preventing premature births.^{2,3}

What is the Idaho PRATS?

The Idaho Pregnancy Risk Assessment Tracking System (PRATS) is an annual survey of Idaho mothers that asks questions about maternal experiences and health behaviors before, during, and after pregnancy which may affect pregnancy outcomes and infant health.

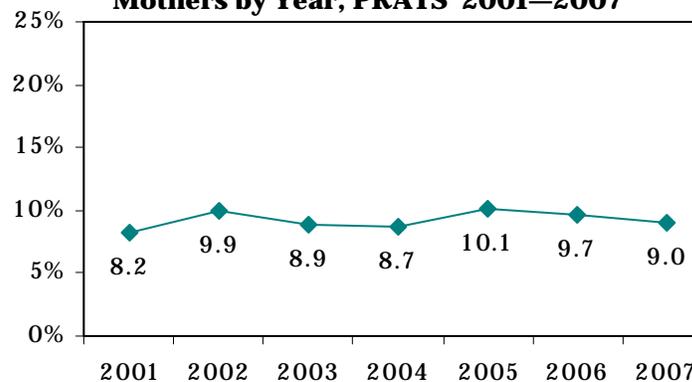
The data presented in this fact sheet are representative of Idaho resident adult mothers who gave birth in Idaho in 2007.

For more details on the PRATS project or any of the survey results, contact the PRATS director at (208) 332-7366.

† The PRATS prevalence of prematurity may differ slightly from the prevalence reported in the Idaho Vital Statistics annual report due to the sampling methodology of the PRATS study. The PRATS study population includes Idaho resident adult mothers (18 years or older) who gave birth in Idaho. Also, mothers of infants who were adopted or who had died at the time of the survey were excluded from analysis.

Premature Birth Trends

Percent of Premature Births to Idaho Adult Mothers by Year, PRATS 2001–2007



In 2007, 9.0 percent of PRATS respondents gave birth to a premature infant.† The prevalence of premature births has ranged from a low of 8.2 percent in 2001 to a high of 10.1 percent in 2005, although no statistically significant changes occurred. Also, there were no statistically significant differences between the statewide prevalence and the seven Idaho public health districts in 2007.

Premature Births by Maternal Characteristics

The prevalence of premature births varied significantly depending upon differences in maternal characteristics. Premature births were significantly more prevalent among:

- Women aged 18 to 19 years old (18.3 percent)
- Mothers who were not married (13.9 percent)
- Mothers diagnosed with gestational hypertension (21.9 percent)
- Mothers who experienced vaginal bleeding prior to the onset of labor (26.3 percent)
- Mothers with a history of prior premature birth (22.3 percent)
- Mothers who experienced premature rupture of the membranes or PROM (23.0 percent).

Percent of Premature Births to Idaho Adult Mothers by Maternal Characteristics, PRATS 2007

	Percent Premature	Chi-square	p-value
Maternal Age		11.80	0.0189
18-19	18.3		
20-24	7.1		
25-29	7.5		
30-34	9.0		
35+	12.9		
Marital Status		9.47	0.0021
Not married	13.9		
Married	7.5		
Gestational Hypertension		9.69	0.0019
No	8.2		
Yes	21.9		
Vaginal Bleeding Prior to Onset of Labor		4.64	0.0312
No	8.6		
Yes	26.3		
Previous Preterm Birth		4.38	0.0363
No	8.7		
Yes	22.3		
Premature Rupture of the Membranes		8.01	0.0046
No	8.3		
Yes	23.0		

Note: The chi-square statistic and the p-value are used to determine whether a statistically significant relationship exists between variables (i.e. premature birth and marital status). It is generally accepted that $p < .05$ is an adequate level of significance.

Premature Birth by Modifiable Risk Factors

While many risk factors associated with premature birth are outside the direct control of the mother (such as gestational hypertension or premature rupture of the membranes), there are some risk factors that can be modified by intervention, also known as *modifiable risk factors*. Significant differences in prevalence of premature birth were found among three modifiable risk factors:

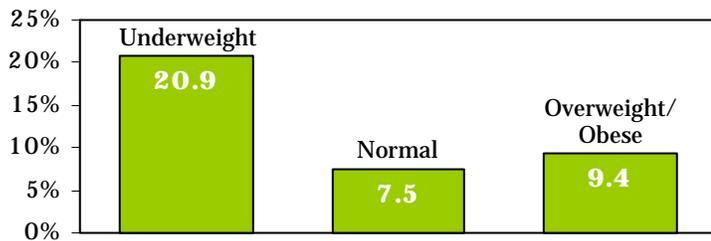
- Prepregnancy body mass index (BMI)
- Adequacy of prenatal care*
- Routine dental care during pregnancy

*Adequacy of prenatal care was measured using the Kotelchuck Index, also known as the Adequacy of Prenatal Care Utilization (APNCU) Index. This index combines information about the timing of entry into prenatal care (initiation) and the number of visits (services received) to determine whether the prenatal care a mother received was adequate.

Percent of Premature Births to Idaho Adult Mothers by Modifiable Risk Factors, PRATS 2007

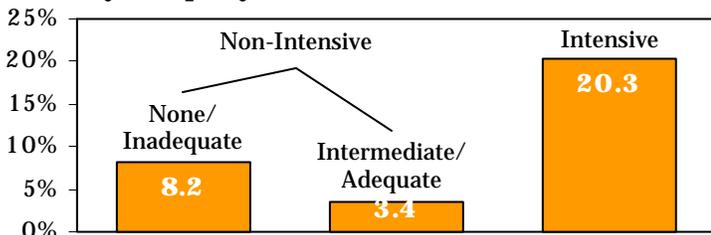
	Percent Premature	Chi-square	p-value
Prepregnancy BMI		6.44	0.0399
Underweight	20.9		
Normal	7.5		
Overweight/Obese	9.4		
Adequacy of Prenatal Care		88.19	<0.0001
None/Inadequate	8.2		
Intermediate/Adequate	3.4		
Intensive	20.3		
Routine Dental Care During Pregnancy		6.52	0.0107
No	10.6		
Yes	7.2		

Percent of Premature Births to Idaho Adult Mothers by Prepregnancy Body Mass Index (BMI), PRATS 2007



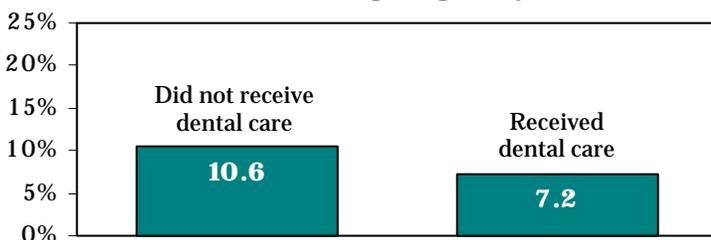
Prepregnancy BMI. Mothers with a prepregnancy body mass index (BMI) classification of *underweight* were two-and-a-half times more likely to give birth to a premature infant compared with mothers who were not underweight prior to conception (20.9 percent versus 8.3 percent). In fact, mothers who were outside of the *normal* BMI classification—either *underweight*, *overweight*, or *obese*—were significantly more likely to give birth to a premature infant compared with mothers within the *normal* BMI range (10.5 percent versus 7.5 percent).

Percent of Premature Births to Idaho Adult Mothers by Adequacy of Prenatal Care, PRATS 2007



Adequacy of prenatal care. Mothers who received *intensive* prenatal care were almost five (4.7) times more likely to give birth to a premature infant compared with those who received *non-intensive* prenatal care (20.3 percent versus 4.3 percent). (Mothers with high-risk pregnancies were significantly more likely to receive *intensive* prenatal care and give birth prematurely than those with low-risk pregnancies. This accounts for some of the difference between *intensive* and *non-intensive* prenatal care recipients on premature birth.) Mothers who received *none/inadequate* prenatal care were over twice (2.4 times) as likely to give birth to premature infants compared with those who received *intermediate/adequate* prenatal care (8.2 percent versus 3.4 percent).

Percent of Premature Births to Idaho Adult Mothers by Routine Dental Care During Pregnancy, PRATS 2007



Routine dental care during pregnancy. Mothers who did not receive routine dental care during pregnancy were one-and-a-half times more likely to give birth to a premature infant compared with mothers who did receive routine dental care (10.6 percent versus 7.2 percent).

Source: 2007 Pregnancy Risk Assessment Tracking System (PRATS), Idaho Department of Health and Welfare, Division of Public Health, Bureau of Vital Records and Health Statistics, November 2009.

Sponsored by: MCH Title V Block Grant and the State Systems Development Initiative (SSDI) Grant

Costs associated with this publication are available from the Idaho Department of Health and Welfare, HW-1206.

1. Judith Lumley, "Defining the Problem: The Epidemiology of Preterm Birth," *British Journal of Obstetrics and Gynecology*, Vol. 110, Suppl. 20, April 2003, p. 3-7.
2. *March of Dimes*, "Premature Birth," January 2009, <http://www.marchofdimes.com/professionals/14332_1157.asp> (accessed July 17, 2009).
3. *Institute of Medicine*, "Report Brief: Preterm Birth: Causes, Consequences, and Prevention," July 2006, <<http://www.iom.edu/CMS/3740/25471/35813/35975.aspx>> (accessed July 17, 2009).