PREGNANCY RISK ASSESSMENT MONITORING SYSTEM
A survey for healthier babies in New Jersey

Pre-Pregnancy Weight Status and Pregnancy Weight Gain

Maternal obesity is a cause of fetal and pregnancy complication. In 2002, according to NCHS, 21% of US women of all ages were classified by body mass index (BMI) as obese and 29% as overweight. Recently the American College of Obstetrics and Gynecology endorsed a 2002 Institute of Medicine (IOM) recommendation that gestational weight gain goals should be modified according to pre-pregnancy BMI to improve pregnancy outcomes. New Jersey PRAMS is an opportunity to track maternal obesity and its consequences. Self reported height and weight prior to pregnancy were used to calculate BMI.

In New Jersey, 16.0% of mothers were obese (for pregnant women, the IOM standard is BMI >29.0) and another 12.4% were overweight (BMI 26.0-29.0), totaling an estimated 24,120 and 18,873 women respectively each year (see Table 1). In addition 15.2% or 23,146 women were underweight (BMI <19.8). Black non-Hispanic mothers had the highest prevalence in both categories with 27% obese and 14% overweight. Among white non-Hispanic mothers, 15% were obese and 11% were overweight. Among women with a high school education, 20% were obese and 15% overweight. US-born mothers were one-and-a-half times more likely to be obese than foreign-born mothers (18% versus 11%).

NJ-PRAMS is a joint project of the New Jersey Department of Health and Senior Services and the Centers for Disease Control and Prevention (CDC). Information from PRAMS is used to help plan better health programs for New Jersey mothers and infants—such as improving access to high quality prenatal care, reducing smoking, and encouraging breastfeeding. ▫ One out of every 33 mothers are surveyed each month, when newborns are 2-6 months old. Survey questions address their feelings and experiences before, during and after their pregnancy. ▫ In 2002 and 2003, 3,121 mothers were interviewed with a 72% response rate. (For more information about PRAMS and its operations, see* Contact PRAMS *below.)

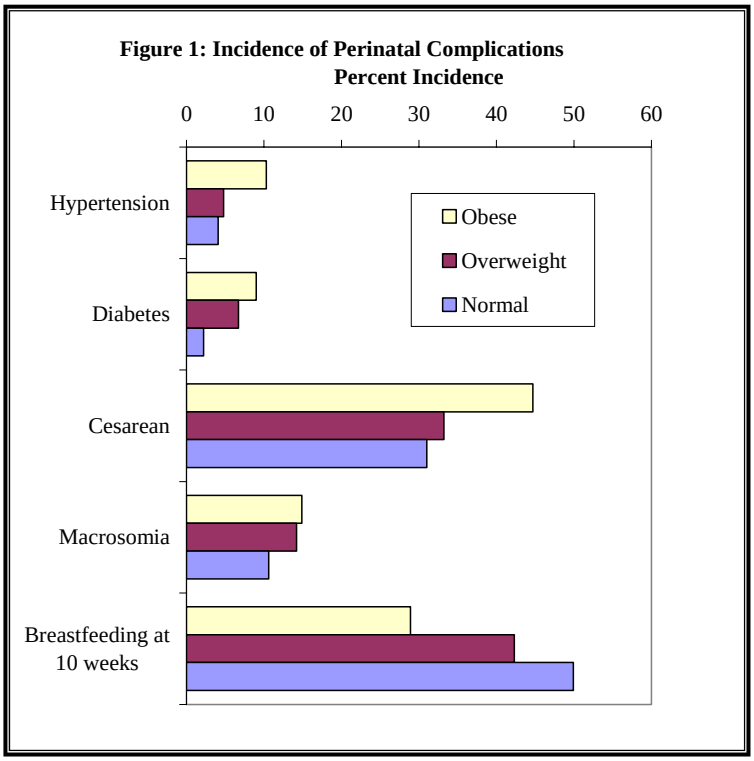
Overweight and obese women are advised to gain less weight during pregnancy, but many do not. Among all deliveries after at least 37 weeks gestation, 48% of obese and 54% of overweight mothers gained more weight than the IOM recommendation of 15 to 25 pounds. Conversely, 48% of underweight mothers gained less than the IOM recommendation of 29 to 40 pounds.

Table 1 - Incidence of Pre-pregnancy Under- and Overweight

	Underweight (BMI < 19.8)		Overweight (BMI 26.0 - 29.0)		Obese (BMI > 29.0)	
	proportion of all births	*estimated annual frequency*	*proportion of all births*	*estimated annual frequency*	*proportion of all births*	*estimated annual frequency*
All births	15% (1%)	14,756 - 17,921	12% (1%)	11,824 - 14,820	16% (1%)	15,380 - 18,671
Age 10-19	21% (4%)	306 - 669	14% (3%)	193 - 457	8% (3%)	57 - 294
Age 20-24	17% (1%)	6,898 - 8,982	13% (1%)	4,772 - 6,784	16% (1%)	6,438 - 8,631
Age 25-29	13% (1%)	6,752 - 9,069	12% (1%)	6,106 - 8,331	16% (1%)	8,053 - 10,579
White non-Hispanic	14% (1%)	6,602 - 9,077	11% (1%)	5,297 - 7,636	15% (1%)	7,093 - 9,680
Black non-Hispanic	14% (2%)	1,820 - 2,902	14% (2%)	1,938 - 3,047	27% (2%)	3,890 - 5,277
Hispanic	17% (2%)	2,990 - 4,413	16% (2%)	2,799 - 4,178	15% (2%)	2,731 - 4,093
Asian non-Hispanic	23% (2%)	1,851 - 2,623	8% (1%)	548 - 1,042	5% (1%)	301 - 712
No High School	21% (3%)	1,851 - 3,027	14% (2%)	1,105 - 2,037	16% (2%)	1,379 - 2,347
High School	16% (1%)	4,080 - 5,773	15% (1%)	3,541 - 5,282	20% (2%)	5,143 - 7,097
Some College	14% (1%)	7,621 - 9,996	11% (1%)	6,156 - 8,353	14% (1%)	7,710 - 10,136
US Born	14% (1%)	8,970 - 11,644	12% (1%)	7,682 - 10,183	18% (1%)	11,769 - 14,702
Foreign Born	18% (1%)	5,158 - 6,888	13% (1%)	3,529 - 5,140	11% (1%)	3,001 - 4,465

The incidence of excess weight gain (relative to the IOM guidelines) among obese mothers did not vary significantly by sociodemographic group. Among women who were only overweight (BMI 26.0-29.0) , those who were white non-Hispanic or US-born were among the most likely to gain more weight than recommended. The least educated, youngest, and foreign-born women were least likely among overweight women to exceed weight gain recommendations.

Figure 1 shows how obesity and overweight are associated with selected perinatal complications.



Agenda for Action

Adequate nutrition and appropriate weight gain during pregnancy are extremely important to both maternal and fetal health. Quality of diet is as critical as calorie count: high nutrient density and adequate hydration should be emphasized. The American Dietetic Association and other organizations have been advocating for broader insurance coverage of nutritional counseling and medical nutrition therapy. Currently such services are mostly an out-of-pocket expense.

When referral to a nutritionist is not feasible, the physician, nurse practitioner, nurse, or other health care professional can review the client's current eating habits and physical activity and make recommendations for improvements. A standard prenatal weight gain chart, plotted by gestational age, can be used to establish weight gain goals and review progress. Other actions healthcare providers can take include:

- Mail a 3-day food diary to the client prior to their first prenatal visit. Review the food diary and briefly discuss healthier eating habits.
- Advertise community nutrition events/programs such as supermarket tours or health fairs in the office or clinic. Sponsor a weekly nutrition class.
- Explain healthy eating strategies to combat nausea, vomiting, constipation, and food and non-food cravings/aversions.
- For women who are found to be mildly iron-deficient and/or anemic, offer iron-rich food source choices instead of iron supplements.
- Maintain a variety of nutrition education handouts specifically for pregnant women. Have a "nutrition during pregnancy" video playing in the waiting room.
- Refer women who have extremely poor eating habits, gestational diabetes, or are obese to a nutritionist for individual counseling.
- Refer potentially eligible women to nutritional assistance programs such as WIC.

The IOM recommendation to reduce weight gain targets for overweight women is only a partial solution. Weight loss during pregnancy is discouraged, even though overweight women also risk greater weight retention post-partum. Ideally nutrition intervention prior to pregnancy would improve eating habits and target a healthier body weight prior to conception, a priority also endorsed by ACOG. Opportunities for nutrition counseling occur at the annual gynecological exam and many primary care visits.

Resources

American College of Obstetrics and Gynecology Committee on Obstetric Practice. Committee opinion: Obesity in pregnancy. *Obstetrics and Gynecology* 106 (Sept 2005);3:671-75

Nutrition During Pregnancy: Part I: Weight Gain, Part II: Nutrient Supplements. Useful summary of the IOM report, with counseling guidelines. Order at: http://www.iom.edu/report.asp?id=18257

Position of the American Dietetic Association: Nutrition and lifestyle for a healthy pregnancy. *Journal of the ADA*, 102(Oct 2002);10:1479-90

Summary of Survey Methodology for New Jersey PRAMS. (Contact NJ-PRAMS)

Contact NJ-PRAMS

http://www.nj.gov/health/fhs/pramsindex.shtml

Lakota K. Kruse, MD MPH, Project Director.
Tel: 609-292-5656. Lakota.Kruse@doh.state.nj.us

This brief was authored by Neetu J. Jain BHMS, MPH, Charles E Denk PhD (NJ-PRAMS staff) Sherry Valente MA RD (NJDHSS WIC Services), Theresa Scholl (UMDNJ).